

DOCUMENT RESUME

ED 079 076

SE 016 293

TITLE I.P.P.E.S. Master Objectives Bank, Science Instructional Topic Catalog.

INSTITUTION Jackson Union School District, Mich.

SPONS AGENCY Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.

PUB DATE [73]

NOTE 440p.

EDRS PRICE MF-\$0.65 HC-\$16.45

DESCRIPTORS *Behavioral Objectives; Course Objectives; *Curriculum Guides; Educational Objectives; *Elementary School Science; Instruction; *Objectives; Resource Materials; Science Education; *Science Instruction

IDENTIFIERS ESEA Title III

ABSTRACT

The Instructional Program Planning and Evaluation System (IPPEs) Master Objectives Bank of the Jackson Public Schools, Michigan, provides a complete listing of the science instructional topics and objectives for kindergarten through the sixth grade. Each item is coded with a ten-digit number, which enables the user to categorize a given objective or to locate a given objective according to the following system: (1) the first two digits of the code indicate the subject matter area, classified under the headings of mathematics, reading and grammar, science, social studies, and writing skills and written expression; (2) the third and fourth digits indicate the grade level; (3) the fifth, sixth, and seventh digits indicate the topic of the instructional unit covered by the objective, and these topics together with their assigned codes are listed on the Topic Summary Sheet; and (4) the eighth, ninth and tenth digits indicate the objective within the topic, all allowing for a maximum of one thousand objectives to be grouped under a single instructional unit topic. In this volume the topics are listed alphabetically, and then objectives under each topic are further ordered according to grade level. This work was prepared under an ESEA Title III contract. (JR)

FILMED FROM BEST AVAILABLE COPY

ED 079076

I.P.P.E.S. MASTER OBJECTIVE SCIENCE INSTRUCTIONAL TOPIC

JACKSON PUBLIC SCHOOLS

**INSTRUCTIONAL PROGRAM
PLANNING & EVALUATION SYSTEM**

**290 WEST MICHIGAN AVENUE
JACKSON, MICHIGAN 49201**

**Funded under Title III, ESEA of 1965,
Michigan Department of Education Project Number 0621**

SE 016 293

FILMED FROM BEST AVAILABLE COPY

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

MASTER OBJECTIVES BANK

INSTRUCTIONAL TOPIC CATALOG

JACKSON PUBLIC SCHOOLS

**INSTRUCTIONAL PROGRAM
PLANNING & EVALUATION SYSTEM**

**290 WEST MICHIGAN AVENUE
JACKSON, MICHIGAN 49201**

**Funded under Title III, ESEA of 1965,
Department of Education Project Number 0621**

ITEM CODE NUMBERS

Each item of the I.P.P.E.S. Master Objectives Bank is coded with a ten digit number user to categorize a given objective or to locate a needed objective according to a number

1. Subject matter major classification. Initially IFPES will provide objectives in and grammar, (c) science, (d) social studies, and (e) writing skills and written left to right) indicate subject matter:

- (a) 00XXXXXXXX = mathematics
- (b) 01XXXXXXXX = reading
- (c) 02XXXXXXXX = science
- (d) 03XXXXXXXX = social studies
- (e) 04XXXXXXXX = writing

2. Grade Level. The grade level at which an objective is normally or traditionally into the third and fourth digits of the code number. The first issue of the catalog through grade six according to the following code:

- (a) XX00XXXXXX = kindergarten
- (b) XX01XXXXXX = first grade
- (c) XX02XXXXXX = second grade
- (d) XX03XXXXXX = third grade
- (e) XX04XXXXXX = fourth grade
- (f) XX05XXXXXX = fifth grade
- (g) XX06XXXXXX = sixth grade

3. Topic of Instructional Unit: The fifth, sixth, and seventh digits indicate the the objective. Each subject matter major classification may be divided into one. The three digit numerals assigned to topics specific to this catalog are found on the body of the catalog all objectives associated with a topic are grouped within and are associated with a seven digit number.

ITEM CODE NUMBERS

es Bank is coded with a ten digit numeral. The system chosen makes it easy for any needed objective according to a number of factors:

Initially IPPES will provide objectives in five areas: (a) mathematics, (b) reading, (c) science, (d) social studies, and (e) writing skills and written expression. The first two digits (from

es

An objective is normally or traditionally introduced into the curriculum is coded with a three digit code number. The first issue of the catalogs covers the grade span from kindergarten through eighth grade. The following code:

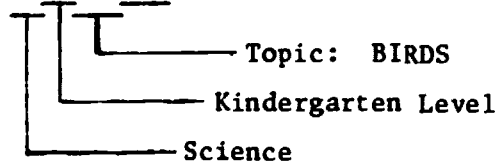
The first, second, sixth, and seventh digits indicate the topic of the instructional unit covered by the objective. The third, fourth, fifth, and eighth digits indicate the grade level. The classification may be divided into one thousand topics within each grade level. Topics specific to this catalog are found on the following Topic Summary Sheet. Within each grade level, topics associated with a topic are grouped within grade levels. Topic headings are given in alphabetical order. The last digit is the objective number.

4. Objective Within Topic. A maximum of one thousand objectives may be grouped under eighth, ninth, and tenth digits of the code number indicate the objective within t

SPECIFIC EXAMPLES OF CODING

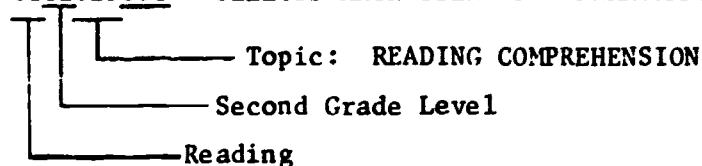
1. Science

0200060007 KNOW THE PARTS OF A CHICKEN EGG. (Seventh objective within topic)



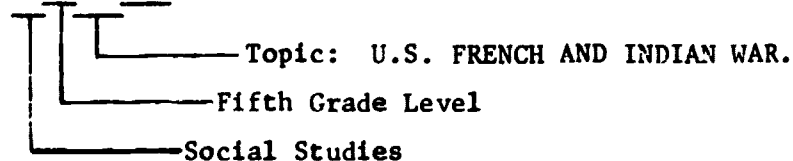
2. Reading

0102025001 SELECTS MAIN IDEA OF A PARAGRAPH. (First objective within topic)



3. Social Studies

0305295002 NAME THE MAIN CAUSES OF THE FRENCH AND INDIAN WAR. (Second objective)



num of one thousand objectives may be grouped under one Instructional Unit Topic. The
of the code number indicate the objective within the topic.

SPECIFIC EXAMPLES OF CODING

A CHICKEN EGG. (Seventh objective within topic)

OF A PARAGRAPH. (First objective within topic)

COMPREHENSION

ES OF THE FRENCH AND INDIAN WAR. (Second objective within topic)

NCH AND INDIAN WAR.

SCIENCE TOPIC SUMMARY SHEET
Grades K-6

<u>CODE</u>	<u>TOPIC</u>	<u>CODE</u>
005	Adaptation (animals)	180
010	Adaptation (behavior)	185
015	Adaptation (defense)	190
020	Adaptation (food)	195
025	Adaptation (habitat)	200
030	Adaptation (man)	205
035	Adaptation (plants)	210
040	Adaptation (plants and animals)	215
045	Air	220
050	Amphibians	225
055	Animals	230
060	Birds	235
065	Cells	240
070	Classification	245
075	Classify (animals)	250
080	Classify by five senses	255
085	Classify by kind, form, and properties	260
090	Classify (matter)	265
095	Classify (plants)	270
100	Classify (plant and animal)	275
105	Classify (plant and animal cells)	280
110	Cloth	285
115	Ecology	290
120	Electricity	295
125	Energy Transformation	300
130	Energy Transformation (air)	305
135	Energy Transformation (atoms)	310
140	Energy Transformation (burning candle)	315
145	Energy Transformation (carbon dioxide)	320
150	Energy Transformation (chemical)	325
155	Energy Transformation (combustion)	330
160	Energy Transformation (compounds)	335
165	Energy Transformation (compounds & mixtures)	340
170	Energy Transformation (condensation)	345
175	Energy Transformation (copper oxide)	350

SCIENCE TOPIC SUMMARY SHEET
 Grades K-6

<u>CODE</u>	<u>TOPIC</u>
180	Energy Transformation (decomposition)
185	Energy Transformation (electric)
190	Energy Transformation (elements)
195	Energy Transformation (evaporation)
200	Energy Transformation (food)
205	Energy Transformation (forms)
210	Energy Transformation (heat)
215	Energy Transformation (internal combustion)
220	Energy Transformation (kinetic)
225	Energy Transformation (light & sound)
230	Energy Transformation (liquid)
235	Energy Transformation (mass)
240	Energy Transformation (mixture)
245	Energy Transformation (molecular)
250	Energy Transformation (nuclear)
255	Energy Transformation (oxidation)
260	Energy Transformation (oxygen)
265	Energy Transformation (pressure)
270	Energy Transformation (solar)
275	Energy Transformation (substance)
280	Energy Transformation (volume)
285	Energy Transformation (water)
290	Erosion
295	Fish
300	Force and Motion
305	Fuels
310	Genetics
315	Geology
320	Human Body (behavior)
325	Human Body (circulatory)
330	Human Body (defense)
335	Human Body (diet)
340	Human Body (digestive)
345	Human Body (disease)
350	Human Body (ear)

SCIENCE TOPIC SUMMARY SHEET (continued)

<u>CODE</u>	<u>TOPIC</u>	<u>CODE</u>
355	Human Body (exercise)	530
360	Human Body (eye)	535
365	Human Body (growth)	540
370	Human Body (health conditions)	545
375	Human Body (health & safety)	550
380	Human Body (life activities)	555
385	Human Body (muscular)	560
390	Human Body (nervous)	565
395	Human Body (nose)	570
400	Human Body (posture)	575
405	Human Body (reflex)	580
410	Human Body (respiratory)	585
415	Human Body (skeletal)	590
420	Human Body (skin, hair, teeth, nails)	595
425	Human Body (systems)	600
430	Human Body (temperature)	605
435	Human Body (tongue)	
440	Human Body (water)	610
445	Insects	615
450	Interdependence	620
455	Light	625
460	Machines	630
465	Machines (complex)	635
470	Machines (simple)	640
475	Mammals	645
480	Magnets	650
485	Mealworms	655
490	Metals	660
495	Microorganisms	665
500	Microscope technique	670
505	Mollusks	675
510	Plants (adaptation)	680
515	Plants (bacteria)	685
520	Plants (bacteria & mold)	690
525	Plants (capillary action)	695
		700

<u>CODE</u>	<u>TOPIC</u>
530	Plants (fertilization)
535	Plants (food chains)
540	Plants (gases)
545	Plants (growth)
550	Plants (hybrids)
555	Plants (molds)
560	Plants (needs)
565	Plants (nongreen)
570	Plants (parts)
575	Plants (roots)
580	Plants (seeds)
585	Plants (trees)
590	Plants (water)
595	Pollution (water)
600	Pollution (water & air)
605	Relative positions of stationary & moving objects)
610	Reproduction
615	Reptiles (extinct)
620	Scientific Method
625	Soil
630	Solar system
635	Solar System (stars)
640	Sound
645	Systems (Interactions)
650	Systems & subsystems
655	Universe
660	Water
665	Weather
670	Weather (clouds)
675	Weather (fronts)
680	Weather (precipitation)
685	Weather (prediction)
690	Weather (recording)
695	Weather (storms)
700	Weather (temperature)

0204005	ADAPTATION (ANIMALS)	
0204005001	KNOW HOW THE EMBRYONIC STRUCTURES ARE A SPECIAL	ADAPTA
0204005003	GIVEN DESCRIPTION OR PICTURE OF THE COLORING OF ANIMAL AND AN WOULD SURVIVE BY BLENDING WITH ITS HABITAT.	
0204005004	TELL HOW BODY COVERINGS HELP ANIMALS TO ADAPT TO CERTAIN CLIMATE	
0204005005	MATCH ILLUSTRATIONS OF FOLLOWING ANIMAL STRUCTURES WITH TASK FO FEET, HOOFS, TOES, WINGS, FINS.	
0204005006	MATCH MOUTH ADAPTATIONS TO KINDS OF FOOD TO BE GATHERED BY AN A	
0204005007	MATCH BREATHING STRUCTURE (LUNGS OR GILLS) OF COMMON ANIMAL	
0204005008	MATCH DEFINITIONS WITH FOLLOWING TERMS BIRTH, DEATH, SURVIVE	
0205005	ADAPTATION (ANIMALS)	
0205005001	KNOW THAT GROWTH OF ORGANISMS FROM EGG TO ADULT PROVIDES MANY EX	
0205005002	KNOW THAT THE ADAPTATIONS OF AN ANIMAL TO ITS ENVIRON TO THE FUNCTIONS SERVED.	
0205005003	EXPLAIN HOW MAMMALS ARE BETTER ADAPTED FOR THE PROTECT	
0205005004	INFER THAT THE ENVIRONMENT OF PAST ANIMALS WAS DIFFERENT FROM TH FOUND.	
0205005005	INFER SOME OF THE STRUCTURAL ADAPTATIONS OF EARLY LIFE.	
0205005006	DEVELOP A SEQUENTIAL PATTERN ON A CHART FOR THE APPEARA	

STRUCTURES ARE A SPECIAL ADAPTATION TO ENVIRONMENT.

URE OF THE COLORING OF ANIMAL AND ANIMAL'S HABITAT, EXPLAIN WHETHER OR NOT ANIMAL WITH ITS HABITAT.

HELP ANIMALS TO ADAPT TO CERTAIN CLIMATES.

OLLOWING ANIMAL STRUCTURES WITH TASK FOR WHICH THEY ARE BEST SUITED CLAWS, WEBBED FINS.

TO KINDS OF FOOD TO BE GATHERED BY AN ANIMAL.

(LUNGS OR GILLS) OF COMMON ANIMAL TO HABITAT FOR WHICH IT IS BEST SUITED.

OLLOWING TERMS BIRTH, DEATH, SURVIVE, ADAPT, AND EXTINCT,

ISMS FROM EGG TO ADULT PROVIDES MANY EXAMPLES OF ADAPTIVE CHANGE AND DEVELOPMENT,

S OF AN ANIMAL TO ITS ENVIRONMENT CAN BE UNDERSTOOD BY RELATING BONE STRUCTURE

BETTER ADAPTED FOR THE PROTECTION AND CARE OF THEIR YOUNG.

NT OF PAST ANIMALS WAS DIFFERENT FROM THE PRESENT ENVIRONMENT IN WHICH THEIR FOSSILS ARE

URAL ADAPTATIONS OF EARLY LIFE.

TERN ON A CHART FOR THE APPEARANCE OF THE DIFFERENT FORMS OF LIFE.

0204010	ADAPTATION (BEHAVIOR)
0204010001	KNOW THAT BEHAVIOR MAY BE INBORN OR LEARNED.
0204010002	KNOW THAT ALL ORGANISMS HAVE INBORN BEHAVIOR THAT ADAPTS THEM TO THE
0204010003	DEMONSTRATE HOW ORGANISMS BECAUSE OF THEIR INBORN BEHAVIOR AD
0206010	ADAPTATION (BEHAVIOR)
0206010001	KNOW THAT A LIVING THING IS THE PRODUCT OF ITS HEREDITY AND ENVIRON
0206010002	KNOW THAT BEHAVIOR MAY BE INBORN AND INVOLUNTARY.
0206010003	KNOW THAT RESPONSES TO STIMULI MAY BE SIMPLE OR COMPLEX.
0206010004	KNOW THAT BEHAVIOR CONSISTS OF RESPONSES TO CHANGES (STIMULI) IN
0206010005	KNOW THAT A RESPONSE MAY BE CHANGED BY SUBSTITUTING A NEW STIMULUS STIMULUS.
0206010006	KNOW THAT HABITS AND LEARNING RESULT FROM INTERACTION OF INHERITED
0206010007	THE CHILD WILL DEMONSTRATE A CONDITIONED REFLEX BY CONDITIONING LIGHT, WHEN FED) UNTIL THE FISH RESPONDS WITHOUT FOOD.

OR LEARNED.

ON BEHAVIOR THAT ADAPTS THEM TO THEIR ENVIRONMENT.

OF THEIR INBORN BEHAVIOR ADAPT TO VARIOUS ENVIRONMENTS.

PRODUCT OF ITS HEREDITY AND ENVIRONMENT.

AND INVOLUNTARY.

BE SIMPLE OR COMPLEX.

RESPONSES TO CHANGES (STIMULI) IN THE ENVIRONMENT.

ED BY SUBSTITUTING A NEW STIMULUS AND ASSOCIATING IT WITH THE ORIGINAL

ULT FROM INTERACTION OF INHERITED STRUCTURES WITH STIMULI.

TIONED REFLEX BY CONDITIONING A FISH TO RESPOND TO A STIMULUS (SUCH AS A
SPONDS WITHOUT FOOD.

0206015

ADAPTATION (DEFENSE)

0206015001

KNOW THAT ORGANISMS ARE STRUCTURALLY ADAPTED FOR DEFENSE AGAINST

PAGE 3

STRUCTURALLY ADAPTED FOR DEFENSE AGAINST HOSTILE MICROORGANISMS IN THEIR ENVIRONMENT.

0204020

ADAPTATION (FOOD)

0204020001

KNOW THAT LIVING THINGS NEED A FOOD SUPPLY.

0204020002

KNOW THAT AN ORGANISM NEEDS FOOD FOR GROWTH.

0204025	ADAPTATION (HABITAT)	
0204025001	KNOW THAT A LIVING THING REPRODUCES ITSELF AND DEVELOPS	I
0204025002	KNOW THAT DIFFERENT ANIMALS ARE ADAPTED TO DIFFERENT	S
0204025003	KNOW THAT LIVING THINGS ARE DEPENDENT ON A PARTICULAR	E
0204025004	KNOW WHY THE LIFE CYCLE OF AN ANIMAL IS ADAPTED TO THE	S
0204025005	KNOW THAT A LIVING THING IS DEPENDENT ON ALL THE ENVIRONMENT.	C
0204025006	KNOW THAT THE ENVIRONMENT OF A LIVING THING INCLUDES ALL DIFFERENT PLANTS HAVE ADOPTED TO DIFFERENT ENVIRONMENTS.	S
0204025007	TELL WHAT MOST ORGANISMS NEED TO STAY ALIVE.	
0204025008	KNOW HOW LIVING THINGS CAPTURE MATTER FROM THE	E
0204025009	KNOW HOW A LIVING THING MAY BE ADAPTED TO DIFFERENT	E
0204025010	GIVE THE DEFINITION OF HABITAT.	
0204025011	IDENTIFY DEFINITION OF HABITAT. MATCH ORGANISMS WITH THEY ARE BEST ADAPTED.	P
0204025012	SHOW UNDERSTANDING OF ADAPTATION TO ENVIRONMENT BY DIFFERENT ENVIRONMENTS.	G
0205025	ADAPTATION (HABITAT)	
0205025001	KNOW THAT THERE IS AN INTERCHANGE OF MATTER AND ENERGY	B

REPRODUCES ITSELF AND DEVELOPS IN A GIVEN ENVIRONMENT.

ALS ARE ADAPTED TO DIFFERENT SPECIAL ENVIRONMENTS.

ARE DEPENDENT ON A PARTICULAR ENVIRONMENT.

OF AN ANIMAL IS ADAPTED TO THE SPECIAL ENVIRONMENT, OR HABITAT.

IS DEPENDENT ON ALL THE CONDITIONS AND ALL OTHER LIVING THINGS IN ITS

OF A LIVING THING INCLUDES ALL SURROUNDING CONDITIONS THAT AFFECT ITS GROWTH.
ADAPTED TO DIFFERENT ENVIRONMENTS.

NEED TO STAY ALIVE.

ACQUIRE MATTER FROM THE ENVIRONMENT AND RETURN IT TO THE ENVIRONMENT.

MAY BE ADAPTED TO DIFFERENT ENVIRONMENTS.

HABITAT.

HABITAT. MATCH ORGANISMS WITH PICTURES, DESCRIPTIONS, OR NAMES OF HABITATS TO WHICH

ADAPTATION TO ENVIRONMENT BY GIVING TWO EXAMPLES OF LIVING THINGS NEEDING SPECIAL AND

EXCHANGE OF MATTER AND ENERGY BETWEEN THE ORGANISM AND ITS ENVIRONMENT.

0205025002	KNOW THAT MOST LIVING THINGS DEPEND ON A CONTINUOUS	SUPPLY OF
0205025003	KNOW THAT EACH KIND OF ORGANISM IS ADAPTED TO A SPECIAL	ENVIRONMENT
0205025004	KNOW THAT THE ENVIRONMENT TO WHICH AN ORGANISM IS	ADAPTED
0205025005	KNOW THAT MAN, LIKE ALL OTHER LIVING THINGS, IS LIVING THINGS IN IT.	DEPENDENT
0205025006	KNOW THAT AN ORGANISM MUST HAVE AN ENVIRONMENT THAT	SUPPLIES
0205025007	INFER THAT ENVIRONMENTAL CONDITIONS AFFECT THE	DEVELOPMENT
0205025008	TESTS OF FOODS GIVE INSIGHT INTO THE MATTER LIVING	THINGS THAT
0205025009	KNOW THAT A LIVING THING IS THE PRODUCT OF ITS HEREDITY	AND ENVIRONMENT
0205025010	DEVELOP UNDERSTANDING OF THE IMPORTANCE OF ADAPTATIONS	OF STRUCTURE
0205025011	KNOW THAT STRUCTURAL ADAPTATIONS TO ENVIRONMENTS OF THE	PAST OCCUR
0205025012	KNOW THAT GRADUAL CHANGES OF STRUCTURE IN WATER ANIMALS	OF THE ANIMALS
0205025013	COMPARE ENVIRONMENTAL CONDITIONS IN WATER AND ON LAND	AND RELATIONS
0205025014	COMPARE ENVIRONMENTAL CONDITIONS IN WATER AND ON LAND	AND RELATIONS
0205025015	ANALYZE THE RELATIONSHIP BETWEEN ENVIRONMENT AND LIVING	THINGS.

A CONTINUOUS SUPPLY OF OXYGEN.
 ADAPTED TO A SPECIAL ENVIRONMENT.
 ORGANISM IS ADAPTED SUPPLIES ALL THE ORGANISM'S NEEDS.
 THINGS, IS DEPENDENT ON HIS ENVIRONMENT---ON ALL THE MATTER AND
 ENVIRONMENT THAT SUPPLIES ITS NEEDS IN ADEQUATE AMOUNTS.
 EFFECT THE DEVELOPMENT OF AN ORGANISM.
 MATTER LIVING THINGS TAKE FROM THEIR ENVIRONMENT.
 CT OF ITS HEREDITY AND ENVIRONMENT.
 CE OF ADAPTATIONS OF STRUCTURE TO SUCCESSFUL SURVIVAL IN AN ENVIRONMENT.
 ENVIRONMENTS OF THE PAST OCCURRED SLOWLY.
 E IN WATER ANIMALS OF THE ANCIENT SEAS ADAPTED THEM FOR LAND LIVING.
 WATER AND ON LAND AND RELATE THESE ENVIRONMENTS TO DEVELOPING LIFE FORMS.
 WATER AND ON LAND AND RELATE THESE ENVIRONMENTS TO DEVELOPING LIFE FORMS.
 ENVIRONMENT AND LIVING THINGS.

0205025016 PREDICT WHICH OF SEVERAL EXPERIMENTS IS BEST DESIGNED TO ANSWER
(TEMPERATURE, AIR SUPPLY, LIGHT, WATER, FOOD) ON BEHAVIOR

0206025 ADAPTATION (HABITAT)

0206025001 KNOW THAT LIVING THINGS ARE ADAPTED BY STRUCTURE AND FUNCTION

0206025002 KNOW THAT LIVING ORGANISMS HAVE STRUCTURES THAT ENABLE THEM TO

0206025003 KNOW THAT AN ORGANISM'S SPECIALIZED STRUCTURES ENABLE IT TO INTERACT

0206025004 KNOW THAT HEREDITY AND ENVIRONMENT WORK TOGETHER.

0206025005 KNOW THAT THE ENVIRONMENT FOR GROWTH OF VIRUSES DIFFERS FROM THAT OF CELLS

ENTS IS BEST DESIGNED TO ANSWER GIVEN QUESTION ABOUT EFFECT OF VARIABLES
WATER, FOOD) ON BEHAVIOR OF GROWTH OF ORGANISM IN ITS ENVIRONMENT.

ED BY STRUCTURE AND FUNCTION TO THEIR ENVIRONMENT.

STRUCTURES THAT ENABLE THEM TO RESPOND TO STIMULI IN THEIR ENVIRONMENT.

IZED STRUCTURES ENABLE IT TO INTERACT WITH THE ENVIRONMENT.

NT WORK TOGETHER.

OWTH OF VIRUSES DIFFERS FROM THAT OF OTHER LIVING THINGS.

0204030	ADAPTATION (MAN)	
0204030001	KNOW HOW KNOWLEDGE OF CONCEPTS, WHETHER OBTAINED BY TO KEEPING MAN ALIVE.	TRIAL A
0204030002	EXPLAIN HOW, BY USING HIS BRAIN TO MODIFY THE WHICH HE IS NOT STRUCTURALLY ADAPTED.	ENVIRON
0204030003	ENGAGE IN / PROJECT AND DEMONSTRATE, USING A VARIETY OF SCIENCE CONCEPTS, HAS BEEN ALTERED BY HUMAN ACTIVITIES.	MEDIA,
0205030	ADAPTATION (MAN)	
0205030001	WRITES A PARAGRAPH DESCRIBING THE DETAILS OF PROBLEMS HEAT, COLD).	MAN WILL
0206030	ADAPTATION (MAN)	
0206030001	KNOW THAT CHEMICAL TECHNOLOGY HAS PROVIDED MANY	SUBSTANC
0206030002	KNOW THAT MAN CHANGES THE ENVIRONMENT OF VIRUSES IN	SEEKING
0206030003	KNOW THAT MAN ATTEMPTS TO MANAGE HIS ENVIRONMENT.	
0206030004	INFER THAT THE CONQUEST OF DISEASE IS A COOPERATIVE	EFFORT.
0206030005	KNOW THAT MODERN TECHNOLOGY USES CONCEPTS OF SCIENCE TO	FREE THE
0206030006	KNOW THAT MAN CHANGES THE ENVIRONMENT OF MICROORGANISMS	AS HE SE

TS, WHETHER OBTAINED BY TRIAL AND ERROR OR BY INVESTIGATION, HAS BEEN ESSENTIAL
 AIN TO MODIFY THE ENVIRONMENT, MAN IS ABLE TO LIVE IN ENVIRONMENTS TO
 ADAPTED.
 NSTRATE, USING A VARIETY OF MEDIA, HOW PHYSICAL ENVIRONMENT IN AT LEAST TWO AREAS OF
 ALTERED BY HUMAN ACTIVITIES.
 G THE DETAILS OF PROBLEMS MAN WILL FIND IN A NEW ENVIRONMENT (OXYGEN, ATMOSPHERE,
 Y HAS PROVIDED MANY SUBSTANCES WITH USEFUL PROPERTIES.
 VIRONMENT OF VIRUSES IN SEEKING TO CONQUER DISEASE.
 NAGE HIS ENVIRONMENT.
 ISEASE IS A COOPERATIVE EFFORT.
 USES CONCEPTS OF SCIENCE TO FREE THE ENVIRONMENT OF HARMFUL MICROORGANISMS.
 VIRONMENT OF MICROORGANISMS AS HE SEEKS TO CONQUER DISEASE.

0204035 ADAPTATION (PLANTS)

0204035001 MATCH DESCRIPTIONS OR DRAWINGS OF SEEDS WITH MEANS BY WHICH T
PLANT TO ANOTHER PLANT.

0205035 ADAPTATION (PLANTS)

0205035001 INFER THAT CELL WALLS SUPPORT AND STIFFEN THE STRUCTURE OF PLAN

0205035002 KNOW THAT AS PRIMITIVE PLANTS DEVELOPED STIFFER CELL WALLS,

S OF SEEDS WITH MEANS BY WHICH THEY TRAVEL (WIND, WATER, OR ANIMALS) FROM PARENT

AND STIFFEN THE STRUCTURE OF PLANTS,

DEVELOPED STIFFER CELL WALLS, THEY GREW TALLER.

0205040 ADAPTATION (PLANTS AND ANIMALS)

0205040001 KNOW THAT LIVING THINGS HAVE CHANGED OVER THE AGES,

0205040002 KNOW THAT LIVING THINGS HAVE BEEN CHANGING SINCE LIFE FIRST

0205040003 DEVELOP A SEQUENTIAL PATTERN FOR THE APPEARANCE OF THE DIFF

ALS)

PAGE

10

THE CHANGED OVER THE AGES,

THE BEEN CHANGING SINCE LIFE FIRST BEGAN ON EARTH OVER TWO BILLION YEARS AGO,

IN FOR THE APPEARANCE OF THE DIFFERENT FORMS OF LIFE.

0204045

AIR

0204045001

KNOW THAT NITROGEN IS THE MOST PLENTIFUL GAS IN THE AIR.

0204045002

KNOW THAT ABOUT ONE FIFTH OF AIR IS OXYGEN.

0204045003

KNOW WARM AIR IS FORCED UPWARD BY COOLER AIR SURROUNDING IT.

0204045004

KNOW HOW AIR CAN BE COLLECTED AND CLEANED BY THE DISPLACEMENT

THE MOST PLENTIFUL GAS IN THE AIR.

TH OF AIR IS OXYGEN.

UPWARD BY COOLER AIR SURROUNDING IT.

LECTED AND CLEANED BY THE DISPLACEMENT METHOD.

0200050 AMPHIBIANS

0200050001 KNOW THAT A TURTLE BEGAN ITS LIFE AS AN EGG, WHICH HATCH

0200050002 DESCRIBE HOW A TURTLE BEGAN ITS LIFE AS AN EGG, WHICH HATCH

0200050003 KNOW THE CHARACTERISTICS AND LIFE ACTIVITIES OF AQUATIC AND L

0200050004 DESCRIBE THE CHARACTERISTICS AND LIFE ACTIVITIES OF AQUAT
EAT.

0205050 AMPHIBIANS

0205050001 OBSERVE AND STUDY THE LIFE CYCLE OF AN AMPHIBIAN.

0205050002 DESCRIBE GROWTH AND DEVELOPMENT OF FROG. OBSERVE EGGS IN AC
GROW TO FROGS.

0205050003 DESCRIBE FROG BEGINNING LIFE AS SINGLE CELL MULTIPLIES BY CE
BREATHING FROG.

LIFE AS AN EGG, WHICH HATCHED INTO A SMALL TURTLE AND THEN GREW INTO AN ADULT.

S LIFE AS AN EGG, WHICH HATCHED INTO A SMALL TURTLE AND THEN GREW INTO AN ADULT.

LIFE ACTIVITIES OF AQUATIC AND LAND TURTLES.

ND LIFE ACTIVITIES OF AQUATIC AND LAND TURTLES, BY OBSERVING THEM MOVE AND

LE OF AN AMPHIBIAN.

T OF FROG. ORSERVE EGGS IN ACQUARIUM AS THEY DEVELOP AND HATCH INTO TADPOLES AND

S SINGLE CELL MULTIPLIES BY CELL DIVISION, FORMS STRUCTURES, DEVELOPS INTO AIR

0201055	ANIMALS	
0201055001	IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS	HOW THEY EAT.
0201055002	IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS	HOW THEY GROW
0201055003	IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS	HOW THEY CHAN
0201055004	IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS	HOW THEY MOVE
0201055005	IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS	HOW THEY REPR
0201055006	KEEP AN ACCURATE RECORD OF GROWTH CHANGES OF AN ANIMAL	YOU
0201055007	KNOW THAT ANIMALS MAY BE PRESERVED IN ICE FOR LONG	PERI
0201055008	DEMONSTRATE THAT ANIMALS MAY BE PRESERVED IN ICE, BY THEN ADDING WATER TO ENCLOSE THE DEAD INSECT WITHIN ICE.	PLAC
0201055009	DESCRIBE THAT ANIMALS MAY BE PRESERVED IN ICE FOR LONG REMAIN OVER A LONG PERIOD OF TIME.	PERI
0203055	ANIMALS	
0203055001	FILL IN OUTLINE. SHOW FIVE CLASSES OF ANIMALS AND 2-3	CHAR
0203055002	PLACE CLASSES OF ANIMALS IN PROPER ENVIRONMENT.	
0203055003	CHOOSE FRESH-WATER ANIMAL. TELL HOW IT ADAPTED TO ITS	ENVI
0203055004	DESCRIBE HOW ONE SEA ANIMAL IS ADAPTED TO LIFE IN SEA.	

PROPERTIES OF ANIMALS HOW THEY EAT.

PROPERTIES OF ANIMALS HOW THEY GROW.

PROPERTIES OF ANIMALS HOW THEY CHANGE.

PROPERTIES OF ANIMALS HOW THEY MOVE BY THEMSELVES.

PROPERTIES OF ANIMALS HOW THEY REPRODUCE.

THE GROWTH CHANGES OF AN ANIMAL YOU HAVE OBSERVED.

ANIMALS PRESERVED IN ICE FOR LONG PERIODS.

HOW AN INSECT MAY BE PRESERVED IN ICE, BY PLACING A DEAD INSECT IN WATER, LETTING IT FREEZE,
AND THEN THAWING THE DEAD INSECT WITHIN ICE.

HOW AN INSECT MAY BE PRESERVED IN ICE FOR LONG PERIODS, BY OBSERVING THAT THE INSECT FROZEN IN ICE WILL
NOT MELT FOR A LONG TIME.

THE MAJOR CLASSES OF ANIMALS AND 2-3 CHARACTERISTICS OF EACH.

THE MAJOR CLASSES OF ANIMALS AND 2-3 CHARACTERISTICS OF EACH.

HOW AN INSECT MAY BE PRESERVED IN ICE, BY PLACING A DEAD INSECT IN WATER, LETTING IT FREEZE,
AND THEN THAWING THE DEAD INSECT WITHIN ICE.

HOW AN INSECT MAY BE PRESERVED IN ICE, BY PLACING A DEAD INSECT IN WATER, LETTING IT FREEZE,
AND THEN THAWING THE DEAD INSECT WITHIN ICE.

0203055005	WRITE STORY ABOUT ANIMAL THAT LIVES IN SEA. DESCRIBE ITS ENV
0203055006	DESCRIBE THAT BACKBONES OF DIFFERENT ANIMALS, SUCH AS CHICKEN AND THAT EACH BONE HAS A HOLE IN THE MIDDLE.
0203055007	NAME THE BONES THAT MAKE UP A BACKBONE AS VERTEBRAE, ANIMALS WITHOUT BACKBONES AS INVERTEBRATES.
0203055008	KNOW THAT BACKBONES OF DIFFERENT ANIMALS ARE MADE OF BONES TH THE MIDDLE.
0203055009	KNOW THE BONES THAT MAKE UP A BACKBONE AS VERTEBRAE, ANIMALS WITHOUT BACKBONES AS INVERTEBRATES.
0203055010	PREPARE TWO-PART ANIMAL BOOKLET OF VERTEBRATES AND INVERTEB
0203055011	GIVE CHARACTERISTICS OF VERTEBRATES.
0204055002	KNOW HOW ANIMALS HAVE BEEN ADAPTED TO MEET THE NEEDS OF THEIR EN
0205055	ANIMALS .
0205055001	IDENTIFY BALL ON THE END OF THIGH BONE AND SOCKET OF HIP BONE.
0205055002	RECONSTRUCT THE LEG BONES OF A COOKED CHICKEN AND LABEL THE BALL
0205055003	ORDER BONES OF THE LEG OF COOKED CHICKEN WHEN GIVEN THEM SEPARATE
0205055004	CONTROL THE ENVIRONMENT AND DIET OF AN ANIMAL AND OBSERVE THE NON-CONTROLLED ANIMAL.
0205055005	CONSTRUCT SMALL SYSTEM FOR OBSERVING SEALED-IN ORGANISM. SEAL AQU

IVES IN SFA. DESCRIBE ITS ENVIRONMENT. DRAW PICTURES TO ILLUSTRATE STORY.

RENT ANIMALS, SUCH AS CHICKEN AND FISH, ARE MADE OF BONES THAT FIT TOGETHER
THE MIDDLE.

CKBONE AS VERTEBRAE, ANIMALS WITH BACKBONES AS VERTEBRATES, AND ANIMALS
ES.

ANIMALS ARE MADE OF BONES THAT FIT TOGETHER AND THAT EACH BONE HAS A HOLE I

CKBONE AS VERTEBRAE, ANIMALS WITH BACKBONES AS VERTEBRATES, AND ANIMALS
ES.

OF VERTEBRATES AND INVERTEBRATES.

TES.

ED TO MEET THE NEEDS OF THEIR ENVIRONMENT.

SH BONE AND SOCKET OF HIP BONE.

COOKED CHICKEN AND LABEL THE BALL AND SOCKET JOINTS CORRECTLY.

D CHICKEN WHEN GIVEN THEM SEPARATED.

OF AN ANIMAL AND OBSERVE THE CHANGE IN THE CONTROLLED ANIMAL WITH THAT OF

VERIC SEALED-IN ORGANISM. SEAL AQUATIC PLANTS, SAND, AQUARIUM WATER IN JAR.

0200060 BIRDS

0200060001 KNOW THAT A CHICKEN IS ONE KIND OF BIRD AND THAT ALL BIRDS A
AND ARE COVERED WITH FEATHERS.

0200060002 DESCRIBE THAT A CHICKEN IS ONE KIND OF BIRD AND THAT ALL BIRDS A
EGGS AND THEY ARE COVERED WITH FEATHERS.

0200060003 KNOW THAT CHICKEN EGGS COME FROM THE HEN OR MOTHER CHICKEN
INTO ADULTS.

0200060004 DESCRIBE THAT CHICKEN EGGS COME FROM THE HEN OR MOTHER CHICKEN
INTO ADULTS.

0200060005 IDENTIFY PARTS OF THE EGG AS SHELL, MEMBRANE, WHITE AND YOLK.

0200060006 DESCRIBE A CHICKEN EGG, BY BREAKING ONE OPEN AND OBSERVING

0200060007 KNOW THE PARTS OF A CHICKEN EGG.

0204060 BIRDS

0204060001 DESCRIBE A CHICKEN EGG, BY OBSERVING WITH A HAND LENS THE OUT

0204060002 IDENTIFY PARTS OF THE CHICKEN EGG AS SHELL, MEMBRANE, YOLK, A
WHEN IT JOINS WITH SPERM.

0204060003 KNOW WHY IN BOTH STRUCTURE AND BEHAVIOR (MIGRATION) THE DUCK IS

0204060004 TELL OR ILLUSTRATE (BY DRAWING, ETC.) HOW A DUCK IS ADAPTED
THE EGG IS ADAPTED TO THE LIFE OF THE EMBRYO.

END OF BIRD AND THAT ALL BIRDS ARE ALIKE IN TWO WAYS. ALL LAY HARD-SHELLED EGGS.

OF KIND OF BIRD AND THAT ALL BIRDS ARE ALIKE IN TWO WAYS. THEY ALL LAY HARD-SHELLED WITH FEATHERS.

FROM THE HEN OR MOTHER CHICKEN, AND THAT EGGS HATCH INTO BABY CHICKS WHICH GROW

OME FROM THE HEN OR MOTHER CHICKEN, AND THAT EGGS HATCH INTO BABY CHICKS WHICH GROW

SHELL, MEMBRANE, WHITE AND YOLK.

REAKING ONE OPEN AND OBSERVING IT.

EGG.

BBSERVING WITH A HAND LENS THE OUTSIDE AND INSIDE OF THE EGG.

N EGG AS SHELL, MEMBRANE, YOLK, AND WHITE SPECK ON THE YOLK, WHICH BECOMES EMBRYO

ND BEHAVIOR (MIGRATION) THE DUCK IS ADAPTED TO ITS ENVIRONMENT.

NG, ETC.) HOW A DUCK IS ADAPTED FOR FLIGHT, HATCHING YOUNG FROM EGGS, AND HOW
FE OF THE EMBRYO.

0204065 CELLS

0204065001 KNOW THAT LIVING THINGS ARE MADE OF CELLS. THEY HAVE A COMPLEX S

0204065002 KNOW HOW LIVING THINGS GROW BY CELL DIVISION.

0204065003 KNOW THAT THE STRUCTURE OF CELLS VARIES ACCORDING TO THE FUNCTIONS

0204065004 DESCRIBE AS MANY DIFFERENCES AS YOU CAN WHEN OBSERVING PLANT AND

0204065005 IDENTIFY FROM LIST WHICH NAMES CELL STRUCTURES, OR FROM PICTURES O
TRAITS WHICH ARE PRESENT ONLY IN PLANT CFLLS, ONLY IN ANIMAL CEL

0204065006 GIVEN SIMPLE SLIDE AND MICROSCOPE, CLASSIFY OBJECTS ON SLIDE AS C
BUBBLES, DIRT, CRYSTALS).

0204065007 ESTABLISH A RELATIONSHIP BETWEEN THE MOLD ON BREAD TO THE ACTION
CELLS.

0205065 CELLS

0205065001 DEFINE IN WRITING AND ORALLY WHAT THE WORD CELL MEANS.

0205065002 CONSTRUCT MICROSCOPE SLIDE PREPARATION. PLACE SCRAPING OF INSIDE
ADD COVER SLIP.

0205065003 DESCRIBE SHAPE OF CELLS.

0205065004 IDENTIFY NUCLEUS IN CELL.

0205065005 CONSTRUCT MODEL OF A CELL. USE MIXTURE OF WATER, CLEAR GELATIN, S
WILL GARDEN INSIDE SEALED PLASTIC BAG.

0205065006 IDENTIFY PARTS OF MODEL SIMILAR TO CELL, AS GELATIN FOR CYTOPLASM

THEY HAVE A COMPLEX STRUCTURE.

ON.

CORDING TO THE FUNCTIONS OF THE CELLS IN THE ORGANISM.

EN OBSERVING PLANT AND ANIMAL CELLS UNDER MICROSCOPE.

URES, OR FROM PICTURES OR SLIDES OF LIVING TISSUE, THOSE CELLULAR
LS, ONLY IN ANIMAL CELLS, OR IN BOTH.

Y OBJECTS ON SLIDE AS CELLS OR OBJECTS WHICH ARE NOT CELLS 'E.G., AIR

ON BREAD TO THE ACTION OF BACTERIA OF DECAY ON DEAD PLANT AND ANIMAL

CELL MEANS.

PLACE SCRAPING OF INSIDE CHEEK ON DROP OF WATER ON GLASS SLIDE STAIN

F WATER, CLEAR GELATIN, STARCH, COLOGNE, SMALL PIECES OF CLAY GELATIN

AS GELATIN FOR CYTOPLASM PLASTIC BAG FOR MEMBRANE, CLAY FOR NUCLEUS.

0205065007	KNOW THAT CELLS INTERCHANGE MATTER AND ENERGY WITH THE	E
0205065008	INFER, THROUGH INVESTIGATION, THAT A YEAST CELL GETS	E
0205065009	DEMONSTRATE THAT YEAST CELLS INCREASE WITH REPRODUCTION. WITH WATER AND SAME AMOUNT MIXED WITH SUGAR AND WATER.	C F
0205065010	DESCRIBE DIFFERENCE DUE TO GROWTH AND REPRODUCTION OF	Y
0205065011	DEMONSTRATE THAT A CELL MEMBRANE ALLOWS SOME MATERIALS SOLUTION. STARCH TURNS BLUE-BLACK.	T
0205065012	DESCRIBE THAT IODINE SOLUTION PASSES INTO CELL MODEL	S
0205065013	KNOW THAT ENERGY WITHIN A CELL COMES FROM A CYCLE OF MOLECULES (THE CELL ENERGY PROCESS).	B
0205065014	KNOW THAT ENERGY IS A CYCLICAL PROCESS---ALL WITHIN A	T
0205065015	DESCRIBE THE ENERGY CYCLE IN CELLS.	
0205065016	DERIVE INSIGHT INTO DIFFUSION AS A BASIC PROCESS IN ALL	B
0205065017	UNDERSTAND THAT THE CELL MEMBRANE DELIMITS THE CELL AS A	F
0205065018	THROUGH THE CONSTRUCTION OF MODELS, GAIN A BETTER IDEA	O
0205065019	KNOW THAT CELLS ARE SPECIALIZED FOR DIFFERENT FUNCTIONS.	
0205065020	KNOW THAT CELLS REPRODUCE THEMSELVES.	

MATTER AND ENERGY WITH THE ENVIRONMENT.

IN, THAT A YEAST CELL GETS ENERGY FOR GROWTH FROM SUGAR.

S INCREASE WITH REPRODUCTION. COMPARE SMALL AMOUNT OF YEAST CELLS AFTER 3 DAYS MIXED
MIXED WITH SUGAR AND WATER. FILTER BOTH ONTO PAPER.

GROWTH AND REPRODUCTION OF YEAST CELLS IN SUGAR SOLUTION.

BRANE ALLOWS SOME MATERIALS TO PASS THROUGH. USE CELL MODEL PLACE IN IODINE
E-BLACK.

ON PASSES INTO CELL MODEL STARCH DID NOT COME OUT (IODINE NOT TURNED BLUE-BLACK).

CELL COMES FROM A CYCLE OF BREAKING DOWN AND BUILDING HIGH ENERGY CONTAINING
PROCESS).

CAL PROCESS---ALL WITHIN A TINY CELL.

N CELLS.

ION AS A BASIC PROCESS IN ALL BODIES, ESPECIALLY CELLS.

EMBRANE DELIMITS THE CELL AS A FUNCTIONING UNIT.

F MODELS, GAIN A BETTER IDEA OF CELL STRUCTURE.

LIZED FOR DIFFERENT FUNCTIONS.

THEMSELVES.

0205065021	KNOW THAT WHEN CELLS DIVIDE, EACH NEW CELL HAS ITS OWN	NUCLEUS.
0205065022	PERCEIVE THAT CELL DIVISION TAKES PLACE BY CONTINUAL	DOUBLING.
0205065023	KNOW THAT A SINGLE-CELLED ORGANISM PERFORMS ALL THE LIFE FUNCTIONS	COMMUNITY OF INTERDEPENDENT CELLS.
0205065024	BUILD A FOUNDATION FOR UNDERSTANDING ORGANIZATION OF	CELL STRU
0205065025	EXPLAIN THE FUNCTIONS OF EACH TYPE CELL IN THE BODY.	
0205065026	VISUALIZE HOW CHROMOSOMES DUPLICATE IN CELL DIVISION.	
0205065027	DEMONSTRATE KNOWLEDGE OF ANIMAL CELL REPRODUCTION BY	DRAWING T
	CELL HAS THE SAME NUMBER OF CHROMOSOMES, AND NAMING	SUBSTANCE
0205065028	KNOW THAT GROWTH IN A MANY-CELLED ORGANISM CONSISTS IN	MULTIPLIC
0205065029	DISCOVER THE DISTINCTION BETWEEN CYTOPLASM AND	PROTOPLAS
0205065030	KNOW THAT PROTOPLASM, THE LIVING MATERIAL IN THE CELL,	IS COMPOS
	CRUST AND ATMOSPHERE.	
0205065031	KNOW THAT PROTOPLASM CONTAINS COMMON ELEMENTS AND	COMPOUNDS
0205065032	WRITE OR TELL THREE OF THE FIVE KINDS OR COMPOUNDS	FOUND IN
0205065033	SHOW RECOGNITION OF THE WORD PROTOPLASM THROUGH A	MATCHING
0205065034	KNOW THAT THE CELL IS THE UNIT OF STRUCTURE AND	FUNCTION

EACH NEW CELL HAS ITS OWN NUCLEUS.
 THIS PLACE BY CONTINUAL DOUBLING.
 THE CELL PERFORMS ALL THE LIFE FUNCTIONS WITHIN THE CELL. A MANY-CELLED ORGANISM IS A
 SPECIALIZING ORGANIZATION OF CELL STRUCTURE FOR CELL FUNCTION WITHIN ORGANISMS.
 EACH TYPE CELL IN THE BODY.
 PARTICIPATE IN CELL DIVISION.
 CELL REPRODUCTION BY MITOSIS AND MEIOSIS, AND NAMING
 DRAWING THREE STAGES OF CELL DIVISION STATE EACH NEW
 SUBSTANCES RESPONSIBLE.
 HOW AN ORGANISM CONSISTS IN MULTIPLICATION AND DIFFERENTIATION OF CELLS.
 CYTOPLASM AND PROTOPLASM.
 MATERIAL IN THE CELL, IS COMPOSED OF ELEMENTS AND COMPOUNDS IN THE EARTH'S
 COMMON ELEMENTS AND COMPOUNDS.
 KINDS OR COMPOUNDS FOUND IN CELLS.
 CYTOPLASM THROUGH A MATCHING TEST.
 OF STRUCTURE AND FUNCTION A LIVING THING DEVELOPS FROM A SINGLE CELL.

0205065035	KNOW THAT FOOD SUBSTANCES DIFFUSE THROUGH MEMBRANES.	
0205065036	KNOW THAT CELLS WITH DIFFERENT FUNCTIONS APPEAR	DIFFERENT
0205065037	SEE THE UNITY (THE BASIC STRUCTURE) IN ALL CELLS AND THE DIVERSITY	
0205065038	KNOW THAT CELLS SECRETE NONLIVING MATERIAL.	
0205065039	KNOW THAT IN MANY-CELLED ORGANISMS, GROUPS OF CELLS AND TISSUES	
	SPECIALIZED TO PERFORM THE BODY'S FUNCTIONS.	
0205065040	KNOW THAT SIMILAR CELLS WITH SIMILAR FUNCTIONS ARE	ORGANIZED
0205065041	KNOW THAT ORGANISMS ARE MADE UP OF CELLS. THE UNIT OF	STRUCTURE
0205065042	MAKE DRAWINGS OF ALL THE TYPES OF CELLS IN THE BODY AND	LABEL DRAWINGS
0205065043	KNOW THAT THE SINGLE-CELLED ORGANISMS THAT DEVELOPED IN THE EARLY	
	LATER ERAS ADAPTATION TO THE ENVIRONMENT PRODUCED MORE COMPLEX	

USE THROUGH MEMBRANES.

FUNCTIONS APPEAR DIFFERENT IN DETAIL, BUT NOT IN BASIC STRUCTURES.

TURE; IN ALL CELLS AND THE DIVERSITY IN TERMS OF ADAPTATION TO FUNCTION.

ING MATERIAL.

ISMS, GROUPS OF CELLS AND TISSUES ARE ORGANIZED INTO ORGAN SYSTEMS, ALL
Y'S FUNCTIONS.

SIMILAR FUNCTIONS ARE ORGANIZED INTO TISSUES.

P OF CELLS. THE UNIT OF STRUCTURE AND FUNCTION IN THE ORGANISM IS THE CELL.

OF CELLS IN THE BODY AND LABEL DRAWINGS.

GANISMS THAT DEVELOPED IN THE EARLY SEAS GAVE RISE TO THE MANY-CELLED ORGANISMS OF
ENVIRONMENT PRODUCED MORE COMPLEX STRUCTURES.

0202070

CLASSIFICATION

0202070001

CLASSIFY GIVEN OBJECTS.

0202070002

DESCRIBE THE PROPERTIES OF A GIVEN OBJECT.

0205070

CLASSIFICATION

0205070001

KNOW THAT OBJECTS AND EVENTS CAN BE GROUPED OR

CLASSIFIED.

0200075	CLASSIFY (ANIMALS)	
0200075001	KNOW THAT DIFFERENT ANIMALS CAN BE ORDERED BY AND AIR, MOVE, GROW, AND PRODUCE EGGS OR YOUNG.	CHARAC
0200075002	ORDER VARIETY OF DIFFERENT ANIMALS INTO SETS AND SUBSETS ACCORD HOW THEY GET FOOD AND AIR, MOVE, GROW, AND PRODUCE EGGS OR YOU	
0201075	CLASSIFY (ANIMALS)	
0201075001	LIST BASIC CHARACTERISTIC OF EACH ANIMAL GROUP.	
0201075002	CLASSIFY ANIMALS ACCORDING TO HABITATS, SKIN COVERING,	THE WA
0201075003	GIVEN A LIST OF PICTURES OF 30 DIFFERENT ANIMALS	CLASSI
0202075	CLASSIFY (ANIMALS)	
0202075001	CLASSIFY FAMILIAR ANIMALS ACCORDING TO WHETHER THEY EAT	MEAT,
0202075002	AFTER STUDYING DIFFERENT CLASSIFICATION SCHEMES, WRITE CHARACTERISTICS ARE MOST IMPORTANT IN CLASSIFYING	AT LEA ANIMAL
0204075	CLASSIFY (ANIMALS)	
0204075001	ON BASIS OF DISTINCT CHARACTERISTICS, CLASSIFY COMMON AMPHIBIANS, REPTILES, BIRDS, OR MAMMALS.	ANIMAL
0204075002	GIVEN A LIST OF 12 WORDS IN WHICH ARE MAMMALS AND BIRDS, TO EACH GROUP.	PUT AL
0204075003	KNOW THAT EVERY SPECIES OF ANIMAL HAS A LIFE CYCLE IN CHANGES IN STRUCTURE FROM EGG TO ADULT) IS REPEATED OVER AND OV	WHICH

ANIMALS CAN BE ORDERED BY
HOW THEY MOVE, GROW, AND PRODUCE EGGS OR YOUNG.

CHARACTERISTICS AND LIFE ACTIVITIES OF HOW THEY GET FOOD

CLASSIFY ANIMALS INTO SETS AND SUBSETS ACCORDING TO CHARACTERISTICS AND TO LIFE ACTIVITIES OF
HOW THEY MOVE, GROW, AND PRODUCE EGGS OR YOUNG.

OF EACH ANIMAL GROUP.

TO HABITATS, SKIN COVERING, THE WAY THE ANIMAL MOVES, AND/OR THE NUMBER OF LEGS.

OF 30 DIFFERENT ANIMALS CLASSIFY THEM IN CORRECT ANIMAL GROUP.

ACCORDING TO WHETHER THEY EAT MEAT, PLANTS, OR BOTH.

CLASSIFICATION SCHEMES, WRITE AT LEAST ONE PARAGRAPH STATING WHICH ANIMAL
IS MOST IMPORTANT IN CLASSIFYING ANIMALS.

CHARACTERISTICS, CLASSIFY COMMON ANIMALS AS BEING EITHER WORMS, INSECTS, SHELLFISH, FISH,
BIRDS, OR MAMMALS.

AMONG WHICH ARE MAMMALS AND BIRDS, PUT ALL WORDS IN CORRECT GROUP AND ADD AT LEAST 2 WORDS

AN ANIMAL HAS A LIFE CYCLE IN WHICH THE SAME PATTERN OF DEVELOPMENT (SUCCESSIVE
EGG TO ADULT) IS REPEATED OVER AND OVER AGAIN.

0204075004	CHOOSE AN ANIMAL, IDENTIFY ITS STRUCTURE AND BEHAVIOR	(INBORN AND
0205075	CLASSIFY (ANIMALS)	
0205075001	GIVEN THE CHARACTERISTICS OF SEVERAL ANIMALS, CONSTRUCT SIMILARITIES, I.E., PETS, SMALL ANIMALS, LARGE ANIMALS	A NEW CLASS AND HARMFUL
0205075002	WHEN GIVEN A LIST OF THIRTY DIFFERENT ANIMALS (OR 20 OF THE ANIMALS OR ANIMAL PICTURES INTO GROUPS, I.E.,	PICTURES OF MAMMALS, BIR
0205075003	WRITE A PARAGRAPH OR TWO ON THIS TOPIC	HOW SCIENTISTS KNOW WHICH R
0205075004	DESCRIBE AT LEAST TWO CHANGES IN THE STRUCTURE OF A	HORSE DURING
0205075005	EXPLORE EVIDENCES OF LIFE IN THE PAST. DRAW INFERENCES FUNCTIONS OF BONES FROM A LIVING ANIMAL.	ABOUT A FOSS

STRUCTURE AND BEHAVIOR (INBORN AND LEARNED), AND GIVE ONE EXAMPLE OF EACH.

SEVERAL ANIMALS, CONSTRUCT A NEW CLASSIFICATION SYSTEM GROUPING ANIMALS BY THEIR
L ANIMALS, LARGE ANIMALS AND HARMFUL ANIMALS.

DIFFERENT ANIMALS (OR PICTURES OF THIRTY DIFFERENT ANIMALS), CLASSIFY AT LEAS
CTURES INTO GROUPS, I.E., MAMMALS, BIRDS OR AMPHIBIANS.

IS TOPIC HOW SCIENTISTS KNOW WHICH BONES OF A FOSSIL FIT TOGETHER.

IN THE STRUCTURE OF A HORSE DURING SIXTY MILLION YEARS.

HE PAST. DRAW INFERENCES ABOUT A FOSSIL ANIMAL BY EXAMINING THE STRUCTURE AND
NG ANIMAL.

0200080	CLASSIFY BY FIVE SENSES
0200080001	IDENTIFY THE SENSE OR SENSES USED IN EXAMINING A GIVEN
0200080002	KNOW THAT OBJECTS CAN BE IDENTIFIED BY SIZE, SHAPE,
0200080003	NAME A VARIETY OF OBJECTS, BY SIZE, SHAPE, COLOR,
0200080004	IDENTIFY A VARIETY OF OBJECTS BY SIZE, SHAPE, COLOR,
0200080005	KNOW THAT OBJECTS CAN BE ORDERED ACCORDING TO THEIR
0200080006	ORDER A VARIETY OF OBJECTS ACCORDING TO THEIR LIKENESSES
0200080007	KNOW THAT OBJECTS CAN BE DISTINGUISHED ACCORDING TO
0200080008	DISTINGUISH BETWEEN OBJECTS, ACCORDING TO THEIR COLORS.
0200080009	KNOW THAT OBJECTS CAN BE NAMED BY COLOR.
0200080010	KNOW THAT OBJECTS CAN BE IDENTIFIED BY COLORS.
0200080011	KNOW THAT OBJECTS CAN BE ORDERED BY COLORS.
0200080012	ORDER OBJECTS BY THEIR COLORS.
0200080013	CLASSIFY OBJECTS BY COLOR.
0200080014	NAME OBJECTS BY COLORS, AS RED, BLUE, YELLOW, AND GREEN.

IS USED IN EXAMINING A GIVEN OBJECT.

IDENTIFIED BY SIZE, SHAPE, COLOR, TEXTURE, AND MATERIAL.

BY SIZE, SHAPE, COLOR, TEXTURE, AND MATERIAL.

TS BY SIZE, SHAPE, COLOR, TEXTURE, AND MATERIAL.

DERED ACCORDING TO THEIR LIKENESSES AND DIFFERENCES.

ACCORDING TO THEIR LIKENESSES AND DIFFERENCES.

STINGUISHED ACCORDING TO COLORS.

, ACCORDING TO THEIR COLORS.

MED BY COLOR.

IDENTIFIED BY COLORS.

DERED BY COLORS.

RS.

RED, BLUE, YELLOW, AND GREEN.

0200080015 IDENTIFY OBJECTS BY COLORS, AS RED, BLUE, YELLOW, AND GREEN.

0200080016 NAME THE PRIMARY COLORS.

0200080017 IDENTIFY THE SECONDARY COLOR RESULTING FROM THE COMBINA

0200080018 CLASSIFY CIRCLES, TRIANGLES, SQUARES, AND RECTANGLES BY SHAPE.

0200080019 KNOW THAT OBJECTS CAN BE IDENTIFIED BY THE SOUND THEY MAKE.

0200080020 KNOW THAT OBJECTS CAN BE DISTINGUISHED BY SIMILAR SOUNDS.

0200080021 RECOGNIZE OBJECTS THAT MAKE SOUNDS THAT YOU CAN HEAR.

0200080022 IDENTIFY OBJECTS BY THE SOUND THEY MAKE.

0200080023 DESCRIBE OBJECTS BY THE SOUND THEY MAKE.

0200080024 DISTINGUISH BETWEEN OBJECTS THAT GIVE A SIMILAR SOUND.

0200080025 GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE WHICH S

0200080026 GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE WHICH S

0200080027 CLASSIFY OBJECTS BY THE SOUNDS THEY MAKE.

0200080028 KNOW THAT OBJECTS CAN BE DISTINGUISHED BY TEXTURE, TOUCH,

BLUE, YELLOW, AND GREEN.

TING FROM THE COMBINATION OF TWO PRIMARY COLORS.

ES, AND RECTANGLES BY SHAPE.

D BY THE SOUND THEY MAKE.

SHED BY SIMILAR SOUNDS.

THAT YOU CAN HEAR.

MAKE.

MAKE.

IVE A SIMILAR SOUND.

R SOUND, RECOGNIZE WHICH SOUND IS LOUDER.

R SOUND, RECOGNIZE WHICH SOUND IS MORE PLEASANT.

Y MAKE.

SHED BY TEXTURE, TOUCH, AND BY TASTE.

0200080029	DISTINGUISH BETWEEN OBJECTS OF SIMILAR TEXTURE, BY	TOUCH
0200080030	KNOW THAT TEXTURES CAN BE DESCRIBED BY TOUCH,	
0200080031	DESCRIBE THE TEXTURES OF A VARIETY OF OBJECTS BY	TOUCH
0200080032	AFTER TOUCHING AN OBJECT, DESCRIBE ITS TEXTURE.	
0200080033	RECOGNIZE A CIRCLE, A SQUARE, A TRIANGLE, AND A	RECTA
0200080034	KNOW THAT OBJECTS CAN BE DISTINGUISHED BY THEIR WEIGHT.	
0200080035	IDENTIFY HEAVIER OF TWO OBJECTS WHEN THEY ARE PLACED	ONE I
0200080036	KNOW THAT SUBSTANCES CAN BE IDENTIFIED BY ODOR AND	TASTE
0200080037	DESCRIBE SUBSTANCES BY ODOR AND TASTE, WHILE	BLIND
0200080038	IDENTIFY SUBSTANCES BY ODOR AND TASTE, WHILE	BLIND
0200080039	GIVEN OBJECTS THAT LOOK ALIKE BUT SMELL OR TASTE	DIFFER
	DIFFERENT.	
0200080040	GIVEN VARIOUS FOODS TO TASTE, CLASSIFY THEIR TASTES AS	SALTY
0201080	CLASSIFY BY FIVE SENSES	
0201080001	NAME THE PRIMARY COLORS.	

OBJECTS OF SIMILAR TEXTURE, BY TOUCH AND BY TASTE.

BE DESCRIBED BY TOUCH.

OF A VARIETY OF OBJECTS BY TOUCHING THEM, WHILE BLINDFOLDED.

CT, DESCRIBE ITS TEXTURE.

SQUARE, A TRIANGLE, AND A RECTANGLE BY USING THE SENSE OF TOUCH.

BE DISTINGUISHED BY THEIR WEIGHT.

OBJECTS WHEN THEY ARE PLACED ONE IN EACH HAND.

CAN BE IDENTIFIED BY ODOR AND TASTE.

ODOR AND TASTE, WHILE BLINDFOLDED.

ODOR AND TASTE, WHILE BLINDFOLDED.

ALIKE BUT SMELL OR TASTE DIFFERENT, RECOGNIZE WHETHER THEY SMELL OR TASTE

TASTE, CLASSIFY THEIR TASTES AS SALTY, SOUR, SWEET, OR BITTER.

0201080002	RECOGNIZE OBJECTS THAT ARE THE PRIMARY COLORS.	
0201080003	IDENTIFY THE SECONDARY COLOR RESULTING FROM THE	COMBINA
0201080004	CLASSIFY OBJECT BY COLOR.	
0201080005	CLASSIFY BIRCH, WALNUT, AND OAK WOODS BY KIND.	
0201080006	IDENTIFY OBJECTS MADE OF MORE THAN ONE MATERIAL.	
0201080007	DESCRIBE SOME PROPERTIES OF A GIVEN METAL.	
0201080008	CLASSIFY OBJECTS BY TEXTURE.	
0201080009	RECOGNIZE THE ROCK AND POWDER FORMS OF A GIVEN KIND OF	ROCK.
0201080010	CLASSIFY ROCKS BY SIZE, COLOR, KIND, HARDNESS, AND	WEIGHT.
0201080011	RECOGNIZE A CIRCLE, A SQUARE, A TRIANGLE, AND A	RECTANG
0201080012	CLASSIFY CIRCLES, TRIANGLES, SQUARES, AND RECTANGLES BY	SHAPE.
0201080013	DESCRIBE THE SHAPE AND TEXTURE OF UNSEEN OBJECTS BY	USING T
0201080014	AFTER TOUCHING AN OBJECT, DESCRIBE ITS TEXTURE.	
0201080015	GIVEN VARIOUS FOODS TO TASTE, CLASSIFY THEIR TASTES AS	SALTY,

PRIMARY COLORS.

RESULTING FROM THE COMBINATION OF TWO PRIMARY COLORS.

WOODS BY KIND.

FROM ONE MATERIAL.

IRON METAL.

MINERALS OF A GIVEN KIND OF ROCK.

COLOR, HARDNESS, AND WEIGHT.

TRIANGLE, AND A RECTANGLE BY USING THE SENSE OF TOUCH.

CIRCLES, AND RECTANGLES BY SHAPE.

TO IDENTIFY UNSEEN OBJECTS BY USING THE SENSE OF TOUCH.

TO IDENTIFY ITS TEXTURE.

TO CLASSIFY THEIR TASTES AS SALTY, SOUR, SWEET, OR BITTER.

0201080016	GIVEN OBJECTS THAT LOOK ALIKE BUT SMELL OR TASTE DIFFERENT.	DIF
0201080017	IDENTIFY THE SENSE OR SENSES USED IN EXAMINING A GIVEN	OBJ
0201080018	DESCRIBE THE PROPERTIES OF A GIVEN OBJECT.	
0201080019	DESCRIBE THE TEXTURE, SIZE, COLOR, SHAPE, AND	REF
0201080020	CLASSIFY WOOD, METAL, AND PLASTIC OBJECTS BY MATERIAL.	
0201080021	CLASSIFY OBJECTS BY SIZE. (USE ONLY THE SENSE OF	TOU
0201080022	CLASSIFY OBJECTS BY TEMPERATURE USING THE SENSE OF	TOU
0201080023	CLASSIFY GIVEN OBJECTS BY SMELL.	
0201080024	CLASSIFY GIVEN OBJECTS BY TASTE.	
0201080025	RECOGNIZE THE CHIPS, SAWDUST, AND SHAVINGS OF A GIVEN	KIN
0201080026	CLASSIFY STEEL, LEAD, BRASS, AND ALUMINUM OBJECTS BY	KIN
0201080027	CLASSIFY LIQUIDS BY DENSITY AND OPAQUENESS.	
0201080028	IDENTIFY THE LIQUID AND ICE FORMS OF WATER.	
0201080029	WHEN GIVEN AN OBJECT, EXAMINE AND DESCRIBE ORALLY THE CRITERIA SHAPE, COLOR, TEXTURE.	OBJ

ALIKE BUT SMELL OR TASTE DIFFERENT, RECOGNIZE WHETHER THEY SMELL OR TASTE
 SENSES USED IN EXAMINING A GIVEN OBJECT.
 OF A GIVEN OBJECT.
 SIZE, COLOR, SHAPE, AND REFLECTANCE OF A GIVEN OBJECT.
 NO PLASTIC OBJECTS BY MATERIAL.
 E. (USE ONLY THE SENSE OF TOUCH).
 PERATURE USING THE SENSE OF TOUCH. (WARM, HOT, COLD).
 BY SMELL.
 BY TASTE.
 WOODDUST, AND SHAVINGS OF A GIVEN KIND OF WOOD.
 BRASS, AND ALUMINUM OBJECTS BY KIND.
 DENSITY AND OPAQUENESS.
 D ICE FORMS OF WATER.
 EXAMINE AND DESCRIBE ORALLY THE OBJECT IN TERMS OF AT LEAST THREE OF THE FOLLOWING
 R, TEXTURE.

0201080030 GIVEN A LIST OF TWENTY-FIVE DESCRIPTIVE ADJECTIVES AND A LIST OF FOUR
TEXTURE), MATCH AT LEAST FIVE OF THE ADJECTIVES WITH EACH SCIENTIST

0201080031 CLASSIFY A GROUP OF OBJECTS IN MORE THAN ONE WAY. (TEXTURE, S

0205080 CLASSIFY BY FIVE SENSES

0205080001 RECOGNIZE SEVERAL PROPERTIES OF AN OBJECT OR SUBSTANCE INCLUDING C
STATE OF MATTER RECOGNIZE THE SENSE USED TO DETERMINE EACH OF THE

SCRIPTIVE ADJECTIVES AND A LIST OF FOUR SCIENTIFIC PROPERTIES (SHAPE, COLOR, ODOR,
OF THE ADJECTIVES WITH EACH SCIENTIFIC PROPERTY,

MORE THAN ONE WAY. (TEXTURE, SIZE, COLOR, SHAPE, REFLECTANCE).

AN OBJECT OR SUBSTANCE INCLUDING COLOR, SHAPE, SIZE, TEXTURE, TASTE, ODOR,
E SENSE USED TO DETERMINE EACH OF THESE PROPERTIES.

0200085	CLASSIFY BY KIND, FORM, AND PROPERTIES
0200085001	KNOW THAT OBJECTS THAT HAVE SIMILAR SIZE, BUT DIFFER IN WEIGHT, C
0200085002	KNOW THAT OBJECTS CAN BE DESCRIBED ACCORDING TO WEIGHT ON A SCAL
0200085003	DESCRIBE SOME PROPERITES OF A GIVEN OBJECT. (COLOR, MAGNETISM
0200085004	DISTINGUISH BETWEEN TWO OBJECTS, ACCORDING TO THEIR WEIGHT.
0200085005	DESCRIBE OBJECTS ACCORDING TO THEIR WEIGHT ON A SCALE OR SPRING BA
0200085006	DISTINGUISH BETWEEN OBJECTS THAT HAVE SIMILAR SIZE, BUT DIFFER IN
0200085007	KNOW THAT OBJECTS THAT WILL FLOAT AND NOT FLOAT CAN BE DISTINGUIS
0200085008	DISTINGUISH BETWEEN OBJECTS THAT WILL FLOAT AND NOT FLOAT, BY
0200085009	KNOW THAT A SCALE WORKS BY CAUSING THE INDICATOR TO MOVE FARTH
0200085010	RECOGNIZE HEAVIER OF TWO OBJECTS WHE., THEY ARE PLACED ONE IN EAC
0200085011	DEMONSTRATE HOW A SCALE WORKS, BY WEIGHING OBJECTS, CAUSING TH
0200085012	GIVEN STANDARD UNIT OF WEIGHT AND A SOLID OBJECT, PREDICT HO
0201085	CLASSIFY BY KIND, FORM, AND PROPERTIES
0201085001	IDENTIFY THE EVIDENCE OF AIR AS AN OBJECT.

AND PROPERTIES

PAGE

29

HAVE SIMILAR SIZE, BUT DIFFER IN WEIGHT, CAN BE DISTINGUISHED BY USING A SCALE.

BE DESCRIBED ACCORDING TO WEIGHT ON A SCALE OR SPRING BALANCE.

ES OF A GIVEN OBJECT. (COLOR, MAGNETISM, WEIGHT, MATERIAL, SHAPE, TEXTURE).

OBJECTS, ACCORDING TO THEIR WEIGHT.

DING TO THEIR WEIGHT ON A SCALE OR SPRING BALANCE.

JECTS THAT HAVE SIMILAR SIZE, BUT DIFFER IN WEIGHT, BY USING A SCALE.

WILL FLOAT AND NOT FLOAT CAN BE DISTINGUISHED, BY PLACING THEM IN WATER.

JECTS THAT WILL FLOAT AND NOT FLOAT, BY PLACING THEM IN WATER.

S BY CAUSING THE INDICATOR TO MOVE FARTHER WITH HEAVIER OBJECTS.

WO OBJECTS WHEN THEY ARE PLACED ONE IN EACH PAN OF EQUAL-ARM BALANCE.

E WORKS, BY WEIGHING OBJECTS, CAUSING THE INDICATOR TO MOVE FARTHER WITH HEAVIER

WEIGHT AND A SOLID OBJECT, PREDICT HOW MUCH OBJECT WOULD WEIGH IN STANDARD UNITS.

AND PROPERTIES

OF AIR AS AN OBJECT.

0201085002 TELL AFTER OBSERVATION WHETHER A GIVEN OBJECT FLOATS OR SINKS IN W

0201085003 CLASSIFY OBJECTS BY TEMPERATURE USING A THERMOMETER.

0201085004 CLASSIFY OBJECTS BY WEIGHT.

0205085 CLASSIFY BY KIND, FORM, AND PROPERTIES

0205085001 USING A GRADUATED CYLINDER, MEASURE QUANTITIES OF WATER TO WITHIN

0205085002 USE AN ELEMENTARY BALANCE SCALE TO WEIGH OBJECTS TO THE NEAREST GR

GIVEN OBJECT FLOATS OR SINKS IN WATER.

USING A THERMOMETER.

ERTIES

URE QUANTITIES OF WATER TO WITHIN TWO MILLILITERS OF EXACTNESS.

TO WEIGH OBJECTS TO THE NEAREST GRAM.

0202090	CLASSIFY (MATTER)	
0202090001	GIVEN THE NAME OF 20 DIFFERENT MATERIALS USED IN OUR PHYSICAL PROPERTIES AS LIQUID, GAS, OR SOLID.	DAILY
0203090	CLASSIFY (MATTER)	
0203090001	DEMONSTRATE 3 STATES OF MATTER AND ITS CHANGES. USE	WATER
0203090002	KNOW THE DIFFERENCES IN LIMA BEANS AND SIMILAR SIZED	PEBBL
0203090003	DISTINGUISH BETWEEN LIMA BEANS AND SIMILAR SIZED PEBBLES AS LI	
0203090004	KNOW THAT LIMA BEANS ARE LIVING THINGS AND MAY BE KILLED BY EX	
0203090005	DEMONSTRATE THAT LIMA BEANS ARE LIVING THINGS AND MAY BE KI BEANS BOILED IN WATER TEN MINUTES WILL NOT SPROUT AND	BE KI BEANS
0203090006	KNOW THAT LIMA BEANS WILL CHANGE, AND SIMILAR SIZED AS COMPARED TO THE SAME SUBSTANCES NOT BOILED.	PEBBL
0203090007	DESCRIBE THAT LIMA BEANS WILL CHANGE, AND SIMILAR SIZED AS COMPARED TO THE SAME SUBSTANCES NOT BOILED.	PEBBL
0204090	CLASSIFY (MATTER)	
0204090001	KNOW THAT MATTER IS OF MANY KINDS.	
0204090002	RECOGNIZE A SOLID, A LIQUID, AND A GAS ON THE BASIS OF	SHAPE
0204090003	DESCRIBE HOW IT CAN BE SHOWN THAT MATTER HAS WEIGHT.	
0204090004	DESCRIBE HOW IT CAN BE SHOWN THAT MATTER TAKES UP SPACE.	

AT MATERIALS USED IN OUR DAILY LIVES, CLASSIFY THE MATERIALS ACCORDING TO THEIR
GAS, OR SOLID.

R AND ITS CHANGES. USE WATER.

BEANS AND SIMILAR SIZED PEBBLES AS LIVING AND NON-LIVING SUBSTANCES.

S AND SIMILAR SIZED PEBBLES AS LIVING AND NON-LIVING SUBSTANCES.

NG THINGS AND MAY BE KILLED BY EXTREMES SUCH AS HEAT.

RE LIVING THINGS AND MAY BE KILLED BY EXTREMES SUCH AS HEAT, BY SHOWING THAT
UTES WILL NOT SPROUT AND BEANS NOT BOILED WILL SPROUT.

NGE, AND SIMILAR SIZED PEBBLES WILL NOT CHANGE, WHEN THEY ARE BOILED IN WATER,
ANCES NOT BOILED.

CHANGE, AND SIMILAR SIZED PEBBLES WILL NOT CHANGE, WHEN THEY ARE BOILED IN WATER
ANCES NOT BOILED.

INDS.

AND A GAS ON THE BASIS OF SHAPE.

THAT MATTER HAS WEIGHT.

THAT MATTER TAKES UP SPACE.

0204090005 KNOW THAT MATTER IS NOT ALL MOLECULAR.

0204090006 KNOW THAT A SUBSTANCE MAY BE RECOGNIZED BY ITS PROPERTIES

0204090007 KNOW THAT SUBSTANCES HAVE PROPERTIES THAT DISTINGUISH THEM FROM

0205090 CLASSIFY (MATTER)

0205090001 GIVEN A LIST OF SUBSTANCES, IDENTIFY EACH SUBSTANCE AS A GAS, LIQUID, OR SOLID

0205090002 GIVEN A LIST OF SUBSTANCES, IDENTIFY EACH SUBSTANCE AS A GAS, LIQUID, OR SOLID

0205090003 GIVEN SITUATION IN WHICH OBJECT OR SUBSTANCE MUST FIT INTO PREVIOUSLY ESTABLISHED CAPACITY, EXPLAIN WHETHER IT IS MOST IMPORTANT TO KNOW ABOUT MATTER, ABOUT SPACE, OR ABOUT TIME

0205090004 IDENTIFY AN ACCEPTABLE DEFINITION OF THE TERMS MATTER, MOLECULE, AND ATOM

0205090005 ON A DIAGRAM SHOWING THE PARTS OF AN ATOM, RECOGNIZE THE NUCLEUS, ELECTRON, AND PROTON

0206090 CLASSIFY (MATTER)

0206090001 KNOW THAT THERE ARE HIDDEN LIKENESSES IN MATTER.

0206090002 KNOW THAT MATTER CAN UNDERGO CHANGE.

0206090003 GIVEN A LIST OF EARLY THEORIES ON MATTER, MATCH EACH THEORY WITH THE CORRECT THEORY (BOYLE, DEMOCRITUS, AND EMPEDOCLES).

0206090004 CLASSIFY COMMON SUBSTANCES AS ELEMENTS OR COMPOUNDS WHEN GIVEN

AR.

IZED BY ITS PROPERTIES.

S THAT DISTINGUISH THEM FROM ONE ANOTHER.

Y EACH SUBSTANCE AS A GAS, LIQUID, OR A SOLID.

Y EACH SUBSTANCE AS A GAS, LIQUID, OR A SOLID.

SUBSTANCE MUST FIT INTO PRESCRIBED SPACE OR CONFORM TO GIVEN WEIGHT
T IMPORTANT TO KNOW ABOUT MATERIAL'S WEIGHT OR ITS VOLUME.

F THE TERMS MATTER, MOLECULE, ATOM, ELECTRON, AND NEUTRON.

N ATOM, RECOGNIZE THE NUCLEUS, A PROTON, AN ELECTRON, AND A NEUTRON.

ES IN MATTER.

MATTER, MATCH EACH THEORY WITH THE SCIENTIST WHO FURTHERED IT (DALTON,

NT  COMPOUNDS WHEN GIVEN SYMBOLS, FORMULAS, OR MODELS.

0206090005

CLASSIFY SUBSTANCES (E.G., SUGAR, SALT, GLASS) AS
OR DRAWING OF THE MOLECULAR ARRANGEMENTS.

CRYST

PAGE 33

SUGAR, SALT, GLASS) AS
ARRANGEMENTS,

CRYSTALLINE OR NONCRYSTALLINE WHEN GIVEN A DESCRIPTION

0200095

CLASSIFY (PLANTS)

0200095001

KNOW THAT PLANTS ARE DIFFERENT, ALTHOUGH THEY HAVE

SIMILAR L

0200095002

DESCRIBE THAT PLANTS DIFFER, BY OBSERVING DIFFERENT
CHARACTERISTICS, THOUGH SIMILAR LIFE ACTIVITIES.

PLANTS, AN

0204095

CLASSIFY (PLANTS)

0204095001

GIVEN DESCRIPTION OR EXAMPLE OF A PLANT, CLASSIFY IT
FERNS OR SEED PLANT (INCLUDING PLANTS WITH CONES AND

INTO ONE O
PLANTS WIT

NT, ALTHOUGH THEY HAVE SIMILAR LIFE ACTIVITIES.

BY OBSERVING DIFFERENT PLANTS, AND BY DISCUSSING THAT THEY HAVE DIFFERENT
LAR LIFE ACTIVITIES.

OF A PLANT, CLASSIFY IT INTO ONE OF THE MAJOR GROUPS (SIMPLE PLANTS, MOSSES,
NG PLANTS WITH CONES AND PLANTS WITH FLOWERS).

0203100 CLASSIFY (PLANT AND ANIMAL)

0203100001 TELL POSSIBLE GEOGRAPHIC REASONS WHY PREHISTORIC PLANTS AND ANI

0203100002 TELL WHAT A FOSSIL IS. TELL WHAT WE LEARN FROM FOSSILS.

0205100 CLASSIFY (PLANT AND ANIMAL)

0205100001 KNOW THAT SEDIMENTARY DEPOSITS INDICATE AGE OF FOSSILS.

0205100002 INFER THAT THE AGE OF FOSSILS CAN BE DATED WITH GREAT ACCURAC

0205100003 FROM A GRAPH OF SEDIMENTARY LAYERS AND FOSSILS DETERMINE THE OLD

0205100004 KNOW THAT LIVING THINGS CAN GROW AND CAN REPRODUCE.

0205100005 KNOW THAT PLANTS AND ANIMALS ARE USEFUL TO MAN IN MANY WAYS.

AL)

REASONS WHY PREHISTORIC PLANTS AND ANIMALS ARE NO LONGER LIVING.

TELL WHAT WE LEARN FROM FOSSILS.

AL)

POSITIS INDICATE AGE OF FOSSILS.

SSILS CAN BE DATED WITH GREAT ACCURACY.

ARY LAYERS AND FOSSILS DETERMINE THE OLDEST.

CAN GROW AND CAN REPRODUCE.

ALS ARE USEFUL TO MAN IN MANY WAYS.

0204105	CLASSIFY (PLANT AND ANIMAL CELLS)	
0204105001	DESCRIBE AS MANY DIFFERENCES AS YOU CAN WHEN OBSERVING	PLANT AND
0205105	CLASSIFY (PLANT AND ANIMAL CELLS)	
0205105001	GIVEN A SIMPLE SLIDE AND A MICROSCOPE, CLASSIFY OBJECTS	ON THE SLI
	(E.G., AIR BUBBLES, DIRT, CRYSTALS).	
0205105002	KNOW THAT PLANT AND ANIMAL CELLS HAVE BASICALLY SIMILAR	STRUCTURES
0205105003	IDENTIFY FROM GROUP OF PICTURES EXHIBITING CELL	STRUCTURE
	1. PLANT CELLS 2. ANIMAL CELLS, OR 3. BOTH.	
0205105004	KNOW THAT PLANT AND ANIMAL CELLS CH'NGE MATTER AS THEY	INTERCHANG

YOU CAN WHEN OBSERVING PLANT AND ANIMAL CELLS UNDER THE MICROSCOPE.

SCOPE, CLASSIFY OBJECTS ON THE SLIDE AS CELLS OR OBJECTS WHICH ARE NOT CELLS
().

HAVE BASICALLY SIMILAR STRUCTURES.

EXHIBITING CELL STRUCTURE THOSE CELLULAR CHARACTERISTICS PRESENT ONLY
3. BOTH.

CHANGE MATTER AS THEY INTERCHANGE MATTER AND ENERGY WITH THE ENVIRONMENT.

0205110 CLOTH

0205110001 EVALUATE THE USEFULNESS OF PLANT AND ANIMAL FIBERS.

0205110002 DISTINGUISH BETWEEN WOOL AND COTTON. OBSERVE ODOR OF BURN

0206110 CLOTH

0206110001 KNOW THAT SILK FIBERS ARE MADE BY A LIVING ANIMAL.

0206110002 KNOW THAT KNOWLEDGE OF MOLECULAR STRUCTURE ENABLES MAN TO IN

0206110003 KNOW THAT FIBERS ARE MADE OF COMMON ELEMENTS.

0206110004 KNOW THAT ATOMS CAN BE REARRANGED IN MOLECULES TO FORM FIBER

ANT AND ANIMAL FIBERS.

COTTON. OBSERVE ODOR OF BURNING PROTEIN WITH WOOL AND NOT COTTON.

E BY A LIVING ANIMAL.

LAR STRUCTURE ENABLES MAN TO INVENT NEW FIBERS WITH IMPROVED PROPERTIES.

COMMON ELEMENTS.

NGED IN MOLECULES TO FORM FIBERS WITH SPECIAL PROPERTIES.

0201115	ECOLOGY	
0201115001	AFTER VIEWING A PICTURE SHOWING AREA OF NATURAL CONSERVATION PRACTICES.	RESOURCES WA
0204115	ECOLOGY	
0204115001	KNOW THAT ECOLOGY IS THE STUDY OF THE RELATIONSHIP OF ENVIRONMENT.	LIVING T' ING
0204115002	DO INDEPENDENT RESEARCH TO FIND OUT WHAT ECOLOGY IS AND	HOW IT AFFECT
0204115003	USING THE OVERHEAD PROJECTOR, SHOW THREE AREAS IN WHICH	NATURAL RESO
0204115004	TELL, OR DEVISE AN INVESTIGATION TO SHOW HOW RETURNING	THE MATTER T
0204115005	PROVIDED WITH DATE CONCERNING WILDLIFE CONSERVATION IN SUCH A PROGRAM.	THE EVERGLAD
0205115	ECOLOGY	
0205115001	AFTER VIEWING A FILM ON CONSERVATION LIST FIVE	CONSERVATION
0205115002	USING LIBRARY RESOURCES, WRITE TO THE SATISFACTION OF PRACTICES'.	THE TEACHER,
0205115003	RELATE CONSERVATION PRACTICES TO 3 OF 5 COMPONENTS IN	HIS ENVIRONM

OF NATURAL RESOURCES WASTED OR DESTROYED, LIST FOUR POOR

RELATIONSHIP OF LIVING THINGS TO EACH OTHER AND TO THEIR NONLIVING

HAT ECOLOGY IS AND HOW IT AFFECTS US.

REE AREAS IN WHICH NATURAL RESOURCES HAVE BEEN WASTED.

HOW HOW RETURNING THE MATTER TO THE ENVIRONMENT IS HELPFUL.

E CONSERVATION IN THE EVERGLADES, ORALLY DESCRIBE A PLAN TO ACCOMPLISH

LIST FIVE CONSERVATION PRACTICES THAT SHOULD BE MODIFIED.

SATISFACTION OF THE TEACHER: A COMPOSITION TITLED 'ACCEPTED CONSERVATION

5 COMPONENTS IN HIS ENVIRONMENT (WATER, AIR, WILDLIFE, LAND, MINERAL).

0202120 ELECTRICITY

0202120001 KNOW HOW TO CONSTRUCT A CIRCUIT, USING A DRY CELL, WIRES, A

0202120002 IDENTIFY OPEN AND CLOSED CIRCUITS.

0202120003 PREDICT WHETHER OR NOT AN OBJECT WILL CLOSE AN OPEN CIRCUIT.

0202120004 KNOW HOW A FLASHLIGHT WORKS.

0202120005 DESCRIBE HOW A FLASHLIGHT WORKS BY DISASSEMBLING ONE AND OBSERVE

0202120006 CONSTRUCT A CIRCUIT, USING A DRY CELL, WIRES, AND A LAMP, CAPACITOR

0202120007 EXPLAIN WHY AN ELECTRICAL CIRCUIT IS A SYSTEM OF INTERACTING

0202120008 KNOW THAT HUMAN ENERGY CAN BE USED TO GENERATE ELECTRICITY

0202120009 DEMONSTRATE THAT HIS OWN ENERGY CAN BE USED TO GENERATE ELECTRICITY

0203120 ELECTRICITY

0203120001 BUILD AN ELECTRO MAGNET.

0203120002 CONSTRUCT AN ELECTROMAGNET USING A DRY CELL, AND COVERED COPPER WIRE

0203120003 KNOW THAT A NAIL ACTS AS A MAGNET WHEN IT IS IN A COIL OF WIRE

0203120004 DESCRIBE THAT A NAIL ACTS AS A MAGNET ONLY WHEN IT IS IN A COIL

CIRCUIT, USING A DRY CELL, WIRES, AND A LAMP.

CIRCUITS.

OBJECT WILL CLOSE AN OPEN CIRCUIT.

S.

WORKS BY DISASSEMBLING ONE AND OBSERVING THE COMPONENTS IN RELATION TO A CIRCUIT.

A DRY CELL, WIRES, AND A LAMP, CAUSING THE LAMP TO LIGHT.

CIRCUIT IS A SYSTEM OF INTERACTING OBJECTS.

BE USED TO GENERATE ELECTRICITY.

ENERGY CAN BE USED TO GENERATE ELECTRICITY, BY USING A HAND GENERATOR TO LIGHT A LAMP.

USING A DRY CELL, AND COVERED COPPER WIRE TO FORM A COIL AROUND A LARGE NAIL.

A MAGNET WHEN IT IS IN A COIL OF WIRE CONNECTED TO A DRY CELL.

AS A MAGNET ONLY WHEN IT IS IN A COIL OF WIRE CONNECTED TO A DRY CELL.

0203120005	DEMONSTRATE THAT ELECTRIC ENERGY CAN MAKE THINGS MOVE,	BY USING TH
0203120006	KNOW THAT AN ELECTROMAGNET CAN MAKE A BELL RING.	
0203120007	DEMONSTRATE THAT AN ELECTROMAGNET CAN MAKE A BELL RING,	BY WIRING T
0203120008	GIVEN ALL THE COMPONENTS TO CONSTRUCT A COMPLETE ON WHAT WILL HAPPEN IF ALL COMPONENTS ARE CORRECTLY	ELECTRICAL CONNECTED.
0203120009	GIVEN WORKING COMPONENTS TO CONSTRUCT ELECTRICAL CIRCUIT DEFECTIVE COMPONENT RETARDS WORKING PARTS FROM	AND ONE DEF FUNCTIONING
0205120	ELECTRICITY	
0205120001	WHEN GIVEN A LESSON ON THE USEFULNESS OF ELECTRICITY OF BE LIKE WITH OUT ELECTRICITY.	TODAY, WRITE
0205120002	WHEN PROVIDED WITH APPROPRIATE MATERIALS TO BUILD AN LIGHT BULB), HYPOTHESIZE WHAT WOULD HAPPEN IF ALL THE	ELECTRICAL C COMPONENTS W
0206120	ELECTRICITY	
0206120001	APPLY INFORMATION ON THE STRUCTURE OF THE ATOM IN	EXPLAINING S
0206120002	EXPLAIN HOW THE PROCESSES OF 'INDUCTION' AND 'ELECTRON	TRANSFER' AR
0206120003	EXPLAIN HOW ATTRACTION AND REPULSION BETWEEN CHARGED ON THE OBJECTS.	OBJECTS ARE
0206120004	DESCRIBE VARIABLES THAT AFFECT EXPERIMENTS ON STAT--	ELECTRICITY A
0206120005	DESCRIBE THE VARIABLES THAT AFFECT EXPERIMENTS ON	STATIC ELECT

CAN MAKE THINGS MOVE, BY USING THE ELECTROMAGNET TO LIFT PAPER CLIPS.

KE A BELL RING.

CAN MAKE A BELL RING, BY WIRING THE BELL INTO THE ELECTROMAGNET CIRCUIT.

DUCT A COMPLETE ELECTRICAL CIRCUIT, DEMONSTRATE AND GIVE AN ORAL REPORT
ENTS ARE CORRECTLY CONNECTED.

DUCT ELECTRICAL CIRCUIT AND ONE DEFECTIVE COMPONENT, DEMONSTRATE HOW ONE
NG PARTS FROM FUNCTIONING.

NESS OF ELECTRICITY OF TODAY, WRITE AT LEAST TWO PARAGRAPHS ON WHAT LIFE WOULD

TERIALS TO BUILD AN ELECTRICAL CIRCUIT (DRY CELL, COPPER WIRE AND FLASH
LD HAPPEN IF ALL THE COMPONENTS WERE CONNECTED CORRECTLY.

RE OF THE ATOM IN EXPLAINING STATIC ELECTRICITY.

DUCTION' AND 'ELECTRON TRANSFER' ARE USED TO DEVELOP STATIC CHARGES ON OBJECTS.

ION BETWEEN CHARGED OBJECTS ARE RELATED TO THE KINDS OF ELECTRICAL CHARGES

PERIMENTS ON STATIC ELECTRICITY AND EXPLAIN THE EFFECT.

CT EXPERIMENTS ON STATIC ELECTRICITY AND EXPLAIN THE EFFECT.

0206120006	KNOW THAT FRICTION MAY TRANSFER ELECTRONS, GIVING	OBJECTS
0206120007	THE CHILD WILL DEMONSTRATE A FORCE OF ATTRACTION BY OF TISSUE PAPER TO CLING TO THE ROD.	RUBBING
0206120008	KNOW THAT STATIC ELECTRICITY IS STORED ENERGY	CURRENT ELECTRIC
0206120009	KNOW THAT METALS ARE GOOD CONDUCTORS.	
0206120010	KNOW THAT ELECTRIC ENERGY CAN BE CHANGED INTO OTHER	KINDS OF
0206120011	KNOW THAT THE ENERGY GOTTEN OUT OF MOVING ELECTRONS IS MOVE THROUGH A CIRCUIT.	NEVER GR
0206120012	KNOW THAT A MAGNET MOVING IN A COIL OF WIRE INDUCES A CAN BE INCREASED.	FLOW OF
0206120013	DEMONSTRATE EXISTANCE OF ELECTRIC CURRENT USING THE GALVANOMETER POINTER TO MOVE AS THE MAGNET IS MOVED	GALVANOMETER THROUGH
0206120014	DEMONSTRATE INCREASING THE CURRENT BY USING A STRONGER MORE WINDINGS IN THE COIL RATHER THAN FEWER WINDINGS.	MAGNET,
0206120015	KNOW THAT A WIRE THROUGH WHICH ELECTRONS ARE FLOWING	HAS A MA
0206120016	KNOW THAT A STRONGER MAGNET MAY BE MADE BY CONVERTING	ELECTRIC
0206120017	KNOW THAT THE ENERGY OF MOVING ELECTRONS CAN BE USED TO	DO WORK.
0206120018	DEMONSTRATE SUBSTANCES VARY IN THEIR ABILITY TO CONDUCT CONDUCTIVITY OF VARIOUS METALS CAUSING A LAMP TO LIGHT.	ELECTRIC
0206120019	CONSTRUCT A CIRCUIT TESTER BY CONNECTING DRY CELL CAUSING THE LAMP TO LIGHT WHEN THE CIRCUIT IS COMPLETED.	TERMINAL

TRANSFER ELECTRONS, GIVING OBJECTS AN ELECTRIC CHARGE.

A FORCE OF ATTRACTION BY RUBBING A PLASTIC ROD WITH A WOOL CLOTH, CAUSING PIECES
OF THE ROD.

IT IS STORED ENERGY CURRENT ELECTRICITY IS KINETIC ENERGY.

CONDUCTORS.

CAN BE CHANGED INTO OTHER KINDS OF ENERGY.

THE AMOUNT OF MOVING ELECTRONS IS NEVER GREATER THAN THE ENERGY PUT INTO MAKING ELECTRONS

IN A COIL OF WIRE INDUCES A FLOW OF ELECTRONS IN THE WIRE THIS FLOW OF ELECTRONS

ELECTRIC CURRENT USING GALVANMETER, COIL OF WIRE AND A STRONG MAGNET, CAUSING
TO MOVE AS THE MAGNET IS MOVED THROUGH THE COIL.

CURRENT BY USING A STRONGER MAGNET, USING FASTER RATHER THAN SLOWER MOVEMENTS AND
RATHER THAN FEWER WINDINGS.

WHICH ELECTRONS ARE FLOWING HAS A MAGNETIC FIELD.

THIS MAY BE MADE BY CONVERTING ELECTRIC ENERGY INTO A MAGNETIC FORCE.

MOVING ELECTRONS CAN BE USED TO DO WORK.

IN THEIR ABILITY TO CONDUCT ELECTRICITY, BY USING A CIRCUIT TESTER TO CHECK
ALS CAUSING A LAMP TO LIGHT.

BY CONNECTING DRY CELL TERMINALS, THREE PIECES OF WIRE AND A LAMP AND SOCKET
WHEN THE CIRCUIT IS COMPLETED.

0206120020	KNOW THAT MAGNETISM AND MECHANICAL ENERGY TOGETHER FLOW OF ELECTRONS CAN BE CONVERTED INTO A STEADY	PROVIDE A ST FORCE TO DO
0206120021	LOCATE AND IDENTIFY THE PARTS (CORE, COIL, SOURCE) OF AN ELECTROMAGNETIC ONE.	
0206120022	DEMONSTRATE HOW STRENGTH OF MAGNETIC FIELD PRODUCED BY WIRE AROUND THE CORE.	AN ELECTROMAGNETIC
0206120023	APPLY PRINCIPLES OF ELECTROMAGNETISM WHEN YOU MAKE A PEOPLE.	SIMPLE ELECTRIC
0206120024	KNOW THAT IN AN ELECTRIC BELL, ELECTRIC ENERGY DOES WORK IN MOVING AN	
0206120025	CONSTRUCT ELECTRIC BELL. MAKE COIL OF 100 TURNS OF VOLT DRY CELLS.	WIRE. USE COIL
0206120026	DEMONSTRATE HOW TO CONNECT DRY CELLS AND WIRE TO	ELECTRIC BELL
0206120027	DEMONSTRATE OPERATION OF ELECTRIC BELL. RING IT WHEN	KNIFE SWITCH
0206120028	NAME PARTS OF ELECTRIC BELL.	
0206120029	DESCRIBE HOW AN ELECTRIC BELL WORKS BY OBSERVING OF CURRENT.	MECHANISM AT
0206120030	KNOW THAT ELECTRIC ENERGY CAN BE CONVERTED TO SOUND	ENERGY BY A
0206120031	MAKE WORKING MODEL OF TELEGRAPH. MAKE COIL AND KEY,	USE WOOD ADD
0206120032	DEMONSTRATE OPERATION OF TELEGRAPH. SOUNDER MAKES	CLICKS AS KEY
0206120033	MAKE WORKING MODEL OF TELEPHONE TRANSMITTER. USE SUGAR BARKPHONE, AND FOUR 1.5 VOLT DRY CELLS.	BOX, ALUMINUM

MECHANICAL ENERGY TOGETHER
 CONVERTED INTO A STEADY
 PROVIDE A STRONG AND STEADY FLOW OF ELECTRONS THIS
 FORCE TO DO WORK.

DESIGN (CORE, COIL, SOURCE) OF AN ELECTROMAGNET WHEN GIVEN A DESCRIPTION OR DIAGRAM OF
 MAGNETIC FIELD PRODUCED BY AN ELECTROMAGNET IS AFFECTED BY THE NUMBER OF TURNS OF
 MAGNETISM WHEN YOU MAKE A SIMPLE ELECTROMAGNET. DEMONSTRATE ITS USE TO A GROUP

HOW ELECTRIC ENERGY DOES WORK IN MOVING AN OBJECT, THE CLAPPER, THROUGH A DISTANCE.

MAKE COIL OF 100 TURNS OF WIRE. USE CLAPPER, BELL, KNIFE, SWITCH, WOOD, 2 1.5-
 VOLT DRY CELLS AND WIRE TO ELECTRIC BELL SO IT RINGS.

USE ELECTRIC BELL. RING IT WHEN KNIFE SWITCH IS USED.

HOW IT WORKS BY OBSERVING MECHANISM AT REST AND WHILE IT IS RINGING. DISCUSS FLOW
 OF ENERGY BY A MECHANICAL DEVICE.

MAKE COIL AND KEY. USE WOOD ADD TWO 1.5 VOLT DRY CELLS.

TELEGRAPH. SOUNDER MAKES CLICKS AS KEY DEPRESSED.

MAKE ONE TRANSMITTER. USE SUGAR BOX, ALUMINUM STRIPS, PAPER CLIPS, WIRE, PENCIL LEADS,
 DRY CELLS.

0206120034	DEMONSTRATE OPERATION OF TELEPHONE TRANSMITTER. SPEAK INTO BOX VOICE.
0206120035	DEMONSTRATE HOW TELEPHONE RECEIVER CHANGES ELECTRICITY TO SOUND CELL. IRON DISC VIBRATES AND MAKES SOUND WAVES.
0206120036	KNOW THAT AN ELECTRIC MOTOR TRANSFERS AND MULTIPLIES A FORCE.
0206120037	MAKE WORKING MODEL OF ELECTRIC MOTOR. MAKE ARMATURE AND COILS OF VOLT DRY CELLS.
0206120038	DEMONSTRATE OPERATION OF ELECTRIC MOTOR. ARMATURE SPINS WHEN KNIFE
0206120039	KNOW THAT OPENING AND CLOSING A SWITCH IN AN ELECTRIC CIRCUIT
0206120040	KNOW THAT SOUND WAVES MAY BE CONVERTED INTO VARYING STRENGTHS CONDUCTOR, AND RECONVERTED INTO SOUND WAVES.
0206120041	KNOW THAT SOUND WAVES CAN BE CONVERTED INTO ELECTRICAL ENERGY, T SOUND WAVES.
0206120042	KNOW THAT ELECTRIC ENERGY CAN BE CHANGED TO ELECTROMAGNETIC SPACE AT THE SPEED OF LIGHT.
0206120043	KNOW THAT WHENEVER ELECTRONS FLOW THROUGH A WIRE, THEY SET UP A
0206120044	KNOW THAT ELECTRONS MOVING BACK AND FORTH GENERATE ELECTROMAGNETIC
0206120045	KNOW THAT ELECTROMAGNETIC WAVES CAN BE CHANGED TO ELECTRIC
0206120046	KNOW THAT LIGHT ENERGY LIKE SOUND ENERGY, CAN BE CONVERTED
0206120047	KNOW THAT ELECTROMAGNETIC WAVES CAN BE SEPARATED BY THEIR FRE

TELEPHONE TRANSMITTER. SPEAK INTO BOX. VIBRATIONS CARRY CURRENT-WITH PATTERN-LIKE
 RECEIVER CHANGES ELECTRICITY TO SOUND. EXPOSE INSIDE OF RECIEVER, TOUCH WIRES TO DR
 AND MAKES SOUND WAVES.
 TRANSFERS AND MULTIPLIES A FORCE.
 RIC MOTOR. MAKE ARMATURE AND COILS OF WIRE. USE KNIFE, SWITCH, PEGBOARD, AND TWO 1.
 ELECTRIC MOTOR. ARMATURE SPINS WHEN KNIFE SWITCH CLOSED.
 NG A SWITCH IN AN ELECTRIC CIRCUIT CAN BE USED TO TRANSMIT SIGNALS.
 E CONVERTED INTO VARYING STRENGTHS OF ELECTRIC CURRENT, TRANSFERRED THROUGH A
 INTO SOUND WAVES.
 E CONVERTED INTO ELECTRICAL ENERGY, TRANSMITTED OVER A CIRCUIT, AND RECONVERTED TO
 AN BE CHANGED TO ELECTROMAGNETIC WAVES THAT CAN CARRY SIGNALS THROUGH
 S FLOW THROUGH A WIRE, THEY SET UP A MAGNETIC FIELD AROUND THE WIRE,
 BACK AND FORTH GENERATE ELECTROMAGNETIC WAVES.
 AVES CAN BE CHANGED TO ELECTRIC ENERGY THAT CAN BE CONVERTED INTO SOUND WAVES.
 SOUND ENERGY, CAN BE CONVERTED TO ELECTROMAGNETIC WAVES.
 AVES CAN BE SPARATED BY TH REQUENCIES.

0206120048

KNOW THAT ELECTROMAGNETIC WAVES CAN ACTIVATE DEVICES IN SPACE TO GAT
SIGNALS TO EARTH.

7

PAGE 44

WAVES CAN ACTIVATE DEVICES IN SPACE TO GATHER LIGHT AND SOUND AND TRANSMIT THEIR

✓

J

0203125	ENERGY TRANSFORMATION	
0203125001	DISCOVER THAT ENERGY IS REQUIRED TO CAUSE MOVEMENT BY	USING
0203125002	EXPLAIN DIFFERENCE IN STORED ENERGY AND ENERGY OF	MOTION
0203125003	STATE THAT ENERGY CAN BE CHANGED NOT MADE.	
0203125004	GIVE THE CORRECT DEFINITION OF THE FOLLOWING IN A	MATCH
	MOLECULE.	
0204125	ENERGY TRANSFORMATION	
0204125001	KNOW THAT WHEN ENERGY CHANGES FROM ONE FORM TO ANOTHER,	THE TO
0205125	ENERGY TRANSFORMATION	
0205125001	KNOW THAT GRAVITATION IS UNIVERSAL.	
0205125002	KNOW THAT WEIGHT IS A MEASURE OF GRAVITATIONAL PULL ON A MASS.	
0205125003	INFER THAT THE LESS THE MASS, THE LESS ITS GRAVITATIONAL PULL A	
	OVERCOME IT.	
0205125004	INFER THAT THE GREATER THE MASS, THE GREATER ITS	GRAVIT
	BE USED TO OVERCOME IT.	
0205125005	KNOW THAT TO MOVE AN OBJECT, ENERGY MUST BE APPLIED TO	OVERCO
0205125006	TELL HOW ENERGY IS USEFUL TO YOU WHEN RELEASED.	
0205125007	KNOW THAT CHANGES ARE PREDICTABLE.	

REQUIRED TO CAUSE MOVEMENT BY USING WATER AND A BOAT.

RED ENERGY AND ENERGY OF MOTION.

CHANGED NOT MADE.

ON OF THE FOLLOWING IN A MATCHING TEST SOLAR ENERGY, ENERGY, HEAT, AND

ANGES FROM ONE FORM TO ANOTHER, THE TOTAL AMOUNT OF ENERGY REMAINS UNCHANGED.

UNIVERSAL.

SURE OF GRAVITATIONAL PULL ON A MASS.

ASS, THE LESS ITS GRAVITATIONAL PULL AND THE LESS THE ENERGY WHICH MUST BE USED TO

THE MASS, THE GREATER ITS GRAVITATIONAL PULL AND THE GREATER THE ENERGY WHICH MUST

CT, ENERGY MUST BE APPLIED TO OVERCOME THE PULL OF GRAVITATION.

TO YOU WHEN RELEASED.

DICTABLE.

0205125008	KNOW THAT MATTER CAN BE CHANGED INTO ENERGY. HOWEVER THE TOTAL A REMAINS THE SAME.
0205125009	KNOW THAT WHEN ENERGY CHANGES FROM ONE FORM TO ANOTHER, THE TOTAL A
0206125	ENERGY TRANSFORMATION
0206125001	KNOW THAT WHEN ENERGY CHANGES FROM ONE FORM TO ANOTHER, THE TOTAL A
0206125002	KNOW THAT IN ALL MASS-ENERGY RELATIONSHIPS, THE SUM OF THE AMOUNTS UNCHANGED.
0206125003	GIVEN DESCRIPTION OF AN ENERGY CHANGE, EXPLAIN IF IT HAS BEEN A TRAN ENERGY AND/OR NAME THE FORM OR STATE TO WHICH IT HAS BEEN CHANGE
0206125004	RECOGNIZE SITUATIONS IN WHICH WORK, AS A SCIENTIST DEFINES IT,

TO ENERGY. HOWEVER THE TOTAL AMOUNT OF MATTER AND ENERGY IN THE UNIVERSE

ONE FORM TO ANOTHER, THE TOTAL AMOUNT OF ENERGY REMAINS UNCHANGED.

ONE FORM TO ANOTHER, THE TOTAL AMOUNT OF ENERGY REMAINS UNCHANGED.

ICNSHIPS, THE SUM OF THE AMOUNTS OF MATTER AND ENERGY INVOLVED REMAINS

ANGE, EXPLAIN IF IT HAS BEEN A TRANSFORMATION IN THE FORM OR THE STATE OF THE
GE TE TO WHICH IT HAS BEEN CHANGED.

T, AS A SCIENTIST DEFINES IT, IS DONE.

0202130	ENERGY TRANSFORMATION (AIR)
0202130001	CONSTRUCT A HYPOTHESIS THAT THIS EXPANSION OF HEATED AIR IN A BALL
0202130002	KNOW THAT AIR IN A BOTTLE CAN BE HEATED TO EXPAND A BALLOON.
0202130003	DESCRIBE THAT AIR IN A BOTTLE CAN BE HEATED TO EXPAND A BALLOON.
0203130	ENERGY TRANSFORMATION (AIR)
0203130001	KNOW THAT MOVING AIR HAS ENERGY.
0203130002	CONSTRUCT A PINWHEEL, USING A ROUND PIECE OF CARDBOARD, KNITTING
0203130003	DEMONSTRATE THAT WIND WILL HAVE ENERGY OF MOTION BY USE OF PINWHE
0203130004	DEMONSTRATE THAT MOVING AIR HAS ENERGY, BY USING THE PINWHEEL PLACING IT IN FRONT OF AN ELECTRIC FAN.
0204130	ENERGY TRANSFORMATION (AIR)
0204130001	KNOW THAT HEATED AIR EXPANDS, COOLED AIR CONTRACTS,
0204130002	DEMONSTRATE THAT WARMED AIR EXPANDS, BY CAUSING A DEFLATED OVER A BOTTLE OPENING AND THE BOTTLE IS HEATED.
0204130003	DEMONSTRATE HOW TO COLLECT CLEAN AIR, BY BUBBLING AIR THROUGH A INVERTED BOTTLE.
0206130	ENERGY TRANSFORMATION (AIR)

THIS EXPANSION OF HEATED AIR IN A BALLOON MAY BE DUE TO FASTER MOVING MOLECULES.

AN BE HEATED TO EXPAND A BALLOON.

E CAN BE HEATED TO EXPAND A BALLOON.

RGY.

A ROUND PIECE OF CARDBOARD, KNITTING NEEDLES, AND RUBBER BANDS.

AVE ENERGY OF MOTION BY USE OF PINWHEEL.

HAS ENERGY, BY USING THE PINWHEEL AND CAUSING IT TO TURN BY BLOWING ON IT OR BY ELECTRIC FAN.

, COOLED AIR CONTRACTS.

EXPANDS, BY CAUSING A DEFLATED BALLOON TO INFLATE WHEN THE BALLOON IS PLACED
E BOTTLE IS HEATED.

LEAN AIR, BY RUBBLING AIR THROUGH A PAN OF WATER, DISPLACING WATER FROM AN

0206130001 DEMONSTRATE FASTER MOVING AIR HAS LOWER PRESSURE BY BLOWING BET
AN INVERTED FUNNEL CONTAINING A PING PONG CAUSING THE BALL TO BE

0206130002 KNOW THAT AIR MOVING FASTER OVER THE UPPER SURFACE OF AN OBJECT DEVE

0206130003 DEMONSTRATE KINETIC ENERGY INCREASES AND TEMPERATURE RISES AS MO
TIRE. PUMP GETS HOT NEAR BOTTOM. USE FIRE SYRINGE TO COMPRESS AI

AS LOWER PRESSURE BY BLOWING BETWEEN TWO SUSPENDED APPLES AND BLOWING THROUGH
PING PONG CAUSING THE BALL TO BE SUSPENDED INSIDE THE FUNNEL.

R THE UPPER SURFACE OF AN OBJECT DEVELOPS A LIFTING FORCE.

CREASES AND TEMPERATURE RISES AS MOLECULES OF GAS PRESS CLOSER. PUMP AIR INTO
M, USE FIRE SYRINGE TO COMPRESS AIR. AIR GETS HOT, IGNITES COTTON INSIDE.

0205135	ENERGY TRANSFORMATION (ATOMS)	
0205135001	KNOW THAT THE EARTH'S MATTER IS BUILT UP OF ATOMS	COMBINED
0205135002	KNOW THAT AN ELEMENT IS MADE UP OF ONE KIND OF ATOM, BUILDING BLOCKS OF MATTER.	WITH A D
0205135003	TELL OR SHOW BY MODEL THAT ALL MATTER IS COMPOSED OF	ATOMS.
0205135004	ON A DIAGRAM SHOWING THE PARTS OF AN ATOM, RECOGNIZE THE NUCLEUS,	
0205135005	INFER THERE IS NO CHANGE IN WEIGHT AS ATOMS RECOMBINE	INTO NEW
0206135	ENERGY TRANSFORMATION (ATOMS)	
0206135001	EXPLAIN DIFFERENCE BETWEEN ATOMS AND MOLECULES WHEN	GIVEN A
0206135002	MAKE MODELS OF NEUTRAL ATOMS OF DIFFERENT ELEMENTS.	
0206135003	NAME KINDS OF PARTICLES IN ATOM.	
0206135004	RECOGNIZE RELATIONSHIP BETWEEN THE ATOMIC NUMBER OF AN ELEMENT.	ELEMENT
0206135005	DESCRIBE ATOMS. MADE UP OF 3 KINDS OF PARTICLES, PARTICLES, DIFFERENT NUMBERS.	OBSERVE
0206135006	KNOW THAT ELECTRONS ARE EXTREMELY SMALL.	
0206135007	KNOW THAT LOSS OR GAIN OF AN ELECTRON GIVES AN ATOM A	CHARGE.
0206135008	KNOW THAT THE BASIC ATOMIC PARTICLES ARE PROTONS WITH A NEUTRONS WITH NO CHARGE.	POSITIVE

ATOMS)

MATTER IS BUILT UP OF ATOMS COMBINED IN MANY WAYS.

MADE UP OF ONE KIND OF ATOM, WITH A DEFINABLE SET OF PROPERTIES. ATOMS ARE THE

AT ALL MATTER IS COMPOSED OF ATOMS.

PARTS OF AN ATOM, RECOGNIZE THE NUCLEUS, A PROTON, AN ELECTRON, AND A NEUTRON.

IN WEIGHT AS ATOMS RECOMBINE INTO NEW SUBSTANCES.

ATOMS)

EN ATOMS AND MOLECULES WHEN GIVEN A DIAGRAM, DRAWING, OR DESCRIPTION OF EACH.

ATOMS OF DIFFERENT ELEMENTS.

IN ATOM.

BETWEEN THE ATOMIC NUMBER OF AN ELEMENT AND THE NUMBER OF ELECTRONS IN THE ATOM OF THE

OF 3 KINDS OF PARTICLES, OBSERVE 4 DIFFERENT MODELS OF ATOMS WITH SAME KINDS OF

EXTREMELY SMALL.

AN ELECTRON GIVES AN ATOM A CHARGE.

IC PARTICLES ARE PROTONS WITH A POSITIVE CHARGE, ELECTRONS WITH A NEGATIVE CHARGE, AND

0206135009	KNOW THAT EACH DIFFERENT ATOM CONSISTS OF PARTICLES	ARRANGED IN ITS
0206135010	KNOW THAT THE NUMBER OF PARTICLES IN AN ATOM DETERMINES	ITS STRUCTURE A
0206135011	REINFORCE CONCEPT OF ATOMIC STRUCTURE BY MODELING	SEVERAL ATOMS.
0206135012	KNOW THAT WHEN THE NUCLEUS OF THE ATOM CHANGES, ENERGY	IS RELEASED.
0206135013	KNOW THAT THE PARTS OF THE ATOM ARE TIGHTLY BOUND	TOGETHER CERT
0206135014	KNOW THAT RADIOACTIVE (UNSTABLE) ATOMS EMIT PARTICLES	FROM THEIR NUCL
0206135015	KNOW THAT A CHANGE IN THE NUMBER OF PROTONS IN AN ATOM	CHANGES THE ATO
0206135016	KNOW THAT ENERGY MUST BE PUT IN TO INCREASE SPEED OF	NUCLEAR PARTICL
0206135017	KNOW THAT ENERGY INPUT IS NEEDED TO RAISE THE ATOMIC	NUMBER.

CONSISTS OF PARTICLES ARRANGED IN ITS OWN CHARACTERISTIC STRUCTURE.
 THE NUMBER OF PARTICLES IN AN ATOM DETERMINES ITS STRUCTURE AND ITS ATOMIC WEIGHT.
 THE STRUCTURE OF AN ATOM IS DETERMINED BY MODELING SEVERAL ATOMS.
 WHEN THE ATOM CHANGES, ENERGY IS RELEASED.
 PARTICLES ARE TIGHTLY BOUND TOGETHER CERTAIN PARTS ARE ELECTRICALLY CHARGED.
 SOME ATOMS EMIT PARTICLES FROM THEIR NUCLEUS THESE PARTICLES HAVE ENERGY.
 THE NUMBER OF PROTONS IN AN ATOM CHANGES THE ATOM INTO THAT OF ANOTHER ELEMENT.
 IN ORDER TO INCREASE SPEED OF NUCLEAR PARTICLES.
 IN ORDER TO RAISE THE ATOMIC NUMBER.

0203140 ENERGY TRANSFORMATION (BURNING CANDLE)

0203140001 DEMONSTRATE THAT WE GET LIGHT AND HEAT ENERGY WHEN A FUEL BURN

0204140 ENERGY TRANSFORMATION (BURNING CANDLE)

0204140001 STATE THAT ENERGY CAN BE CHANGED FROM ONE FORM TO ANOTHER

0204140002 WHEN PROVIDED WITH APPROPRIATE MATERIALS TO START A FIRE, OR
LEAST ONE PARAGRAPH BASED ON OBSERVATIONS.

0204140003 DESCRIBE THAT A CHEMICAL CHANGE IS OCCURRING AS A CANDLE BURNS, TH
GIVEN OFF.

0204140004 DEMONSTRATE THAT A CANDLE BURNS AT CONSTANT RATE, BY PLACING
TIME IT TAKES FOR THE PARAFFIN TO DISAPPEAR.

0204140005 DEMONSTRATE THAT CARBON DIOXIDE FORMS WHEN A CANDLE BURNS, BY
CONTAIN CLEAR LIMEWATER, CAUSING THE LIMEWATER TO TURN CLOUDY WH

0206140 ENERGY TRANSFORMATION (BURNING CANDLE)

0206140001 DEMONSTRATE WHEN A FUEL BURNS WATER IS FORMED, BY PLACING
GOES OUT AND WATER FORMS INSIDE JAR.

BURNING CANDLE)

PAGE 51

LIGHT AND HEAT ENERGY WHEN A FUEL BURNS. (BY USE OF CANDLE).

BURNING CANDLE)

CHANGED FROM ONE FORM TO ANOTHER (BY DEMONSTRATION OF BURNING CANDLE).

APPROPRIATE MATERIALS TO START A FIRE, OBSERVE THE COMBINED FIRE AND CANDLE AND WRITE AT
ED ON OBSERVATIONS.

CHANGE IS OCCURRING AS A CANDLE BURNS, THE PARAFFIN DISAPPEARS, AND LIGHT AND HEAT ARE

E BURNS AT CONSTANT RATE, BY PLACING HALF-INCH MARKS ON THE CANDLE AND MEASURING THE
PARAFFIN TO DISAPPEAR.

DIOXIDE FORMS WHEN A CANDLE BURNS, BY ARRANGING A CANDLE INSIDE JOINED JARS WHICH
CAUSING THE LIMEWATER TO TURN CLOUDY WHEN THE LIGHTED CANDLE IS PUT OUT.

BURNING CANDLE)

BURNS WATER IS FORMED, BY PLACING A BURNING CANDLE IN A CLOSED JAR UNTIL THE FLAME
S INSIDE JAR.

0204145	ENERGY TRANSFORMATION (CARBON DIOXIDE)	
0204145001	UNDERSTAND THAT EXHALED AIR CONTAINS CARBON DIOXIDE.	
0204145002	SHOW THAT OXYGEN AND CARBON DIOXIDE HAVE DIFFERENT	PROPERTIES
0204145003	DESCRIBE THAT CARBON DIOXIDE CAUSES LIMewater TO TURN TO A MILKY	
0204145004	DISTINGUISH BETWEEN AIR FROM HIS LUNGS AND AIR FROM THE	ATMOSPHERE
	COMPARING RESULTS WITH A SIMILAR TEST WHERE AIR FROM A	BICYCLE PUMP
0204145005	DEMONSTRATE AND ANSWER QUESTIONS ABOUT THE PROPERTIES	OF CARBON DIOXIDE
	AND ONE BLOWN UP BY A PERSON.	
0204145006	DEMONSTRATE THAT THE AIR FROM LUNGS CONTAINS CARBON	DIOXIDE,
	INTO LIMewater.	
0204145007	KNOW THAT OXYGEN GIVES ENERGY WHEN IT COMBINES	CHEMICALLY
0205145	ENERGY TRANSFORMATION (CARBON DIOXIDE)	
0205145001	EXAMINE THE MAKING OF CARBON DIOXIDE BY YEAST, AND INFER THAT YEAST	
0205145002	DEMONSTRATE YEAST IN SUGAR MAKES CARBON DIOXIDE. PUT	POWDERED
	SET 10 MINUTES BUBBLES TURN LIMewater MILKY.	
0205145003	CONSTRUCT CARBON DIOXIDE GENERATOR. USE EGG SHELLS IN	VINEGAR
	DISPLACEMENT.	
0205145004	DEMONSTRATE TEST FOR CARBON DIOXIDE. USE GAS IN ABOVE	ACTIVITIES
	CLOUDY.	
0205145005	DEMONSTRATE SIMILARITY OF MILKY LIMewater TO EGGSHELL.	COMPARE
	ACTION ON LIMewater.	
0205145006	SHOW SOAKED SEEDS MAKE CARBON DIOXIDE. PUT SOAKED LIMA	BEANS ON
	SQUEEZE GENERATOR GAS BUBBLES INTO LIMewater, TURNS	MILKY.

OXIDE)

PAGE

52

AINS CARBON DIOXIDE.

IDE HAVE DIFFERENT PROPERTIES USING LIMEWATER AS A REAGENT.

SES LIMEWATER TO TURN TO A MILKY COLOR.

LUNGS AND AIR FROM THE ATMOSPHERE, USING EXHALATION THROUGH LIMEWATER AND
TEST WHERE AIR FROM A BICYCLE PUMP IS USED TO FILL A BALLOON.

ABOUT THE PROPERTIES OF CARBON DIOXIDE BY USING ONE BALLOON FILLED BY A PUMP

NGS CONTAINS CARBON OXIDE, BY BLOWING INTO A BALLOON AND BUBBLING THE AIR

EN IT COMBINES CHEMICALLY WITH CARBON.

OXIDE)

XIDE BY YEAST, AND INFER THAT YEAST CELLS ARE ALIVE.

S CARBON DIOXIDE. PUT POWDERED YEAST, SUGAR, IN WARM WATER IN GAS GENERATOR
MEWATER MILKY.

OR. USE EGG SHELLS IN VINEGAR IN FLASK COLLECTS BUBBLES BY WATER

XIDE. USE GAS IN ABOVE ACTIVITIES ADD LIMEWATER MIX LIMEWATER TURNS

LIMEWATER TO EGGSHELL. COMPARE BUBBLING ACTION OF VINEGAR ON SHELL AND SIMILAR

OXIDE. PUT SOAKED LIMA BEANS ON WET COTTON IN GAS GENERATOR LET STAND
NTO LIMEWATER, TURNS MILKY.

0205145007 DESCRIBE BUBBLES OF GAS GIVEN OFF AS CARBON DIOXIDE.

0206145 ENERGY TRANSFORMATION (CARBON DIOXIDE)

0206145001 DEMONSTRATE THAT CARBON DIOXIDE IS FORMED DURING THE
WITH LIMEWATER, CAUSING THE LIMEWATER TO TURN MILKY.

SAME AC

VEN OFF AS CARBON DIOXIDE.

BON DIOXIDE)

OXIDE IS FORMED DURING THE
E LIMEWATER TO TURN MILKY.

SAME ACTIVITY, BY MISSING THE GAS TRAPPED IN THE JAR

0204150	ENERGY TRANSFORMATION (CHEMICAL)	
0204150001	KNOW THAT IN CHEMICAL CHANGE, ATOMS REACT TO PRODUCE A	CHANGE
0205150	ENERGY TRANSFORMATION (CHEMICAL)	
0205150001	KNOW THAT IN CHEMICAL AND PHYSICAL CHANGE, THE TOTAL	AMOUNT
0205150002	STATE THE CONCEPT THAT IN AN ORDINARY CHEMICAL REACTION	MATTER
0205150003	GAIN AN UNDERSTANDING OF CHEMICAL PROPERTIES AND INFER	THE E
0205150004	KNOW THAT CHEMICAL PROPERTIES HELP IN IDENTIFYING A	SUBST
0205150005	KNOW THAT WORD EQUATIONS HELP TO DESCRIBE A CHEMICAL	REACT
0205150006	ESTABLISH THE CHEMICAL TEST FOR DISTINGUISHING ACIDS,	BASES
0205150007	DISCOVER THAT LITMUS PAPER IS A CHEMICAL INDICATOR,	
0205150008	IDENTIFY SODA AS NEUTRAL, LIMEWATER AS BASIC, LEMON	JUICE
0205150009	BY DEMONSTRATION CHOOSE WHAT KIND OF SOLUTION CAUSES	PINK
0205150010	DEMONSTRATE CHANGING COLOR OF LITMUS PAPER PLACE PLACE AMMONIA ON PINK AND BLUE LITMUS. PINK TURNS BLUE.	VINEG
0205150011	DEMONSTRATE TEST FOR ACIDS AND BASES. PLACE SODA, CHANGE BLUE, LIMEWATER TURNS PINK TO BLUE, LEMON TURN	LIMEW BLUE
0205150012	KNOW THAT CHEMICAL REACTIONS ARE A DEPENDABLE MEANS OF	TESTI

(ICAL)
 E, ATOMS REACT TO PRODUCE A CHANGE IN THE MOLECULES.

(ICAL)
 PHYSICAL CHANGE, THE TOTAL AMOUNT OF MATTER REMAINS UNCHANGED.

IN ORDINARY CHEMICAL REACTION MATTER IS NEITHER LOST OR GAINED.

CHEMICAL PROPERTIES AND INFER THE EXISTENCE OF MOLECULES.

ES HELP IN IDENTIFYING A SUBSTANCE.

LP TO DESCRIBE A CHEMICAL REACTION.

FOR DISTINGUISHING ACIDS, BASES, AND NEUTRAL SUBSTANCES.

IS A CHEMICAL INDICATOR.

LIMEWATER AS BASIC, LEMON JUICE AS ACIDIC.

T KIND OF SOLUTION CAUSES PINK LITMUS TO TURN PINK.

OF LITMUS PAPER PLACE VINEGAR ON PINK AND BLUE LITMUS. BLUE TURNS PINK
 BLUE LITMUS. PINK TURNS BLUE.

AND BASES. PLACE SODA, LIMEWATER, LEMON JUICE ON RED, BLUE LITMUS. SODA WON'T
 S PINK TO BLUE, LEMON TURN BLUE TO PINK.

S ARE A DEPENDABLE MEANS OF TESTING THE PRESENCE OF A SUBSTANCE.

0205150013	EXPERIENCE SOME TECHNIQUES A CHEMIST USES IN IDENTIFYING UNKNOWN S
0205150014	GAIN NEW AND DEEPER UNDERSTANDING OF THE CHEMIST'S 100 BUILDING
0205150015	KNOW THAT NO ATOMS ARE GAINED OR LOST IN A CHEMICAL CHANGE.
0205150016	KNOW THAT IN CHEMICAL CHANGE, MATTER IS NOT DESTROYED, ONLY CHAN
0205150017	GIVEN A CHEMICAL CHANGE, SUGGEST VARIABLES THAT COULD AFFECT TH
0205150018	GIVEN DESCRIPTION OF A PHYSICAL OR CHEMICAL CHANGE, PREDICT E CHANGE.
0205150019	GIVEN A SERIES OF SITUATIONS IN WHICH CHANGE HAS TAKEN PLACE, DE CHANGES.
0205150020	WHEN PERFORMING AN EXPERIMENT, RECOGNIZE AND RECORD SIGNS OF
0205150021	CONSTRUCT GAS GENERATOR FROM PAPER MILK CARTON SO THAT SIDES ARE
0205150022	DESCRIBE EGGSHELL AND WHITE SUBSTANCE AS CALCIUM CARBONATE

A CHEMIST USES IN IDENTIFYING UNKNOWN SUBSTANCES.

ANDING OF THE CHEMIST'S 100 BUILDING BLOCKS.

ED OR LOST IN A CHEMICAL CHANGE.

E, MATTER IS NOT DESTROYED, ONLY CHANGED FROM ONE FORM TO ANOTHER.

GGEST VARIABLES THAT COULD AFFECT THE CHANGE.

ICAL OR CHEMICAL CHANGE, PREDICT EFFECT OF A GIVEN MANIPULATED VARIABLE ON THAT

S IN WHICH CHANGE HAS TAKEN PLACE, DESCRIBE THE PHYSICAL CHANGES AND THE CHEMICAL

NT, RECOGNIZE AND RECORD SIGNS OF CHEMICAL CHANGE.

M PAPER MILK CARTON SO THAT SIDES ARE FLEXIBLE AND CAN BE SQUEEZED.

SUBSTANCE AS CALCIUM CARBONATE.

0205155

ENERGY TRANSFORMATION (COMBUSTION)

0205155001

DEVELOP INSIGHT INTO COMBUSTION AS ANALOGOUS TO CERTAIN

BUSTION)

PAGE 56

STION AS ANALOGOUS TO CERTAIN KINDS OF OXIDATION---FAST OR SLOW.

0204160 ENERGY TRANSFORMATION (COMPOUNDS)

0204160001 KNOW THAT A COMPOUND IS MADE UP OF MORE THAN ONE EL

0204160002 COMBINE TWO COMPOUNDS WITH DIFFERENT PROPERTIES IN ORDER TO

0205160 ENERGY TRANSFORMATION (COMPOUNDS)

0205160001 CHOOSE THE TYPE OF COMPOUNDS FOUND IN THE GREATEST NU

0205160002 KNOW THAT COMPOUNDS CAN BE BROKEN DOWN INTO THE ELEMENTS OF

0205160003 KNOW THAT COMPOUNDS MAY BE GROUPED BY THEIR CHEMICAL PR

0205160004 DEMONSTRATE THE BREAKING DOWN OF A COMPOUND INTO ITS EL

0206160 ENERGY TRANSFORMATION (COMPOUNDS)

0206160001 KNOW THAT ENERGY IS NEEDED TO SEPARATE METALS FROM THEIR CO

COMPOUNDS)

PAGE

57

MADE UP OF MORE THAN ONE ELEMENT.

TH DIFFERENT PROPERTIES IN ORDER TO CREATE A THIRD COMPOUND WITH NEW PROPERTIES.

COMPOUNDS)

UNDS FOUND IN THE GREATEST NUMBER IN THE EARTH'S CRUST,

BE BROKEN DOWN INTO THE ELEMENTS OF WHICH THEY ARE COMPOSED.

BE GROUPED BY THEIR CHEMICAL PROPERTIES.

DOWN OF A COMPOUND INTO ITS ELEMENTS USING MERCURIC OXIDE.

COMPOUNDS)

ED TO SEPARATE METALS FROM THEIR COMPOUNDS.

0206165

ENERGY TRANSFORMATION (COMPOUNDS AND MIXTURES)

0206165001

FROM A GIVEN DEFINITION OR DESCRIPTION OF A SUBSTANCE, RECO

COMPOUNDS AND MIXTURES)

PAGE 58

OR DESCRIPTION OF A SUBSTANCE, RECOGNIZE SUBSTANCE AS EITHER A COMPOUND OR A MIXTURE.

0204170 ENERGY TRANSFORMATION (CONDENSATION)

0204170001 KNOW THAT WATER VAPOR IN THE AIR CAN BE CHANGED TO WATER.

0204170002 KNOW THAT TO CONDENSE WATER VAPOR, HEAT ENERGY MUST BE TAKEN AWAY.

0204170003 KNOW THAT WATER VAPOR CONDENSES WHEN COOLED.

0204170004 DEMONSTRATE THAT WATER IS IN THE AIR, BY CAUSING MOISTURE TO
WITH ICE WATER.

0204170005 DEMONSTRATE THAT WATER VAPOR IS FORMED INSIDE AND AT THE TOP OF A
AIR, WHEN THE GLASS CHAMBER IS PLACED IN A WARM LOCATION.

CONDENSATION)

PAGE

59

THE AIR CAN BE CHANGED TO WATER.

ER VAPOR, HEAT ENERGY MUST BE TAKEN AWAY.

DENSES WHEN COOLED.

IN THE AIR, BY CAUSING MOISTURE TO COLLECT ON THE SURFACE OF A SHINY CAN FILLED

POR IS FORMED INSIDE AND AT THE TOP OF A SEALED GLASS CHAMBER THAT CONTAINS WATER AND
ER IS PLACED IN A WARM LOCATION.

0206175

ENERGY TRANSFORMATION (COPPER OXIDE)

0206175001

THE CHILD WILL DEMONSTRATE THAT COPPER CAN BE OBTAINED FROM
TONGS IN A BUNSEN BURNER, CAUSING SOME COPPER TO FORM ON THE

ER OXIDE,

PAGE 60

THAT COPPER CAN BE OBTAINED FROM COPPER OXIDE, BY HEATING COPPER OXIDE POWDER ON
CAUSING SOME COPPER TO FORM ON THE TONGS.

0204180 ENERGY TRANSFORMATION (DECOMPOSITION)

0204180001 KNOW THAT THROUGH THE ACTION OF BACTERIA AND OTHER ORGANISMS
TO THE ENVIRONMENT.

0204180002 EXPLAIN HOW BACTERIA AND FUNGI BREAK DOWN ONCE LIVING THINGS

COMPOSITION;

PAGE 61

ON OF BACTERIA AND OTHER

ORGANISMS, THE MATTER OF ONCE-LIVING THINGS IS RETURNED

UNGT BREAK DOWN ONCE LIVING

THINGS AND RETURN THEM TO THE ENVIRONMENT.

0203185 ENERGY TRANSFORMATION (ELECTRIC)

0203185001 KNOW THAT ELECTRIC ENERGY CAN MAKE THINGS MOVE.

0206185 ENERGY TRANSFORMATION (ELECTRIC)

0206185001 DEMONSTRATE SEPARATION OF COMPOUND WITH ELECTRIC CURRENT USING TWO
STEEL SPOONS TO WIRE, PUT IN COPPER SULFATE SOLUTION.

PAGE 62

KE THINGS MOVE.

ND WITH ELECTRIC CURRENT USING TWO 1-1/2 VOLT DRY CELLS, ATTACH TWO STAINLESS
PPER SULFATE SOLUTION.

0203190	ENERGY TRANSFORMATION (ELEMENTS)	
0203190001	DEMONSTRATE AND ANSWER QUESTIONS ABOUT ELEMENT BEING	MADE ONLY
0204190	ENERGY TRANSFORMATION (ELEMENTS)	
0204190001	KNOW THAT AN ELEMENT IS MADE UP OF ONE KIND OF ATOM.	
0204190002	KNOW THAT THE ATOMS IN AN ELEMENT ARE ALIKE. THE ATOMS IN A COM	
0204190003	STATE THE DIFFERENCES IN ELEMENTS AND COMPOUNDS.	
0205190	ENERGY TRANSFORMATION (ELEMENTS)	
0205190001	KNOW THAT COMPOUNDS ARE BUILT UP FROM ELEMENTS.	
0205190002	KNOW THAT ALL MATTER IS MADE UP OF ELEMENTS. ALL MATTER IS MADE	
	PARTICLES.	
0205190003	CHOOSE THE CORRECT NUMBER OF ELEMENTS IN A MULTIPLE	CHOICE Q
0206190	ENERGY TRANSFORMATION (ELEMENTS)	
0206190001	CLASSIFY COMMON SUBSTANCES AS ELEMENTS OR COMPOUNDS	WHEN GIV
0206190002	APPLY INFORMATION OBTAINED FROM SIMPLE EXPERIMENTAL	TESTS TO

TS)
IONS ABOUT ELEMENT BEING MADE ONLY OF ITSELF.

TS)
UP OF ONE KIND OF ATOM.

MENT ARE ALIKE. THE ATOMS IN A COMPOUND ARE DIFFERENT.

ENTS AND COMPOUNDS.

TS)
UP FROM ELEMENTS.

UP OF ELEMENTS. ALL MATTER IS MADE UP OF ATOMS. ALL MATTER IS MADE UP OF

ELEMENTS IN A MULTIPLE CHOICE QUESTION.

TS)
ELEMENTS OR COMPOUNDS WHEN GIVEN SYMBOLS, FORMULAS, OR MODELS.

OM SIMPLE EXPERIMENTAL TESTS TO IDENTIFY ELEMENTS.

0201195 ENERGY TRANSFORMATION (EVAPORATION)

0201195001 KNOW THAT HEAT FROM THE SUN HELPS TO CHANGE WATER TO WATER VAPOR

0201195002 DEMONSTRATE EVAPORATION, BY PLACING DROPS OF WATER INTO AN OPEN GLASS
ONE DAY.

0201195003 DEMONSTRATE THAT HEAT FROM THE SUN HELPS TO CHANGE WATER TO WATER VAPOR
GLASS OF WATER IN SUNLIGHT AND AN EQUAL GLASS OF WATER IN A DARK

0202195 ENERGY TRANSFORMATION (EVAPORATION)

0202195001 CONSTRUCT A HYPOTHESIS THAT THE MOLECULES MUST HAVE PASSED INTO

0202195002 KNOW THAT WET MATERIALS DRY WHEN WATER EVAPORATES FROM THEM.

0202195003 DEMONSTRATE THAT WET MATERIALS DRY WHEN WATER EVAPORATES FROM THEM.

0203195 ENERGY TRANSFORMATION (EVAPORATION)

0203195001 KNOW THAT THE CHANGE FROM LIQUID TO GAS IS CALLED EVAPORATION

0203195002 NAME, AS EVAPORATION, THE PROCESS OF THE PERFUME DISAPPEARING

0203195003 DEMONSTRATE THAT LIQUID CHANGES TO A GAS, BY PLACING A DROP OF PERFUME
(EVAPORATE) WHILE THE ODOR REMAINS.

0203195004 KNOW THAT A SOLID CAN CHANGE INTO A GAS WITHOUT CHANGING FIRST TO A

0203195005 DESCRIBE THAT A SOLID CAN CHANGE INTO A GAS WITHOUT CHANGING FIRST
MOTHBALLS GET SMALLER OVER A PERIOD OF TIME.

TO CHANGE WATER TO WATER VAPOR WHICH GOES INTO THE AIR.

ADD A FEW DROPS OF WATER INTO AN OPEN GLASS AND OBSERVING THE CHANGE IN QUANTITY AFTER

IT HELPS TO CHANGE WATER TO WATER VAPOR WHICH GOES INTO THE AIR, BY PLACING ONE
EQUAL GLASS OF WATER IN A DARK OR SHADED PLACE.

MOLECULES MUST HAVE PASSED INTO THE AIR WHEN WET MATERIALS DRIED.

WATER EVAPORATES FROM THEM.

WHEN WATER EVAPORATES FROM THEM.

TO GAS IS CALLED EVAPORATION.

OF THE PERFUME DISAPPEARING AS IT CHANGES FROM A LIQUID TO A GAS.

TO A GAS, BY PLACING A DROP OF PERFUME INTO A BOTTLE, CAUSING IT TO DISAPPEAR
S.

TO A GAS WITHOUT CHANGING FIRST TO A LIQUID.

TO A GAS WITHOUT CHANGING FIRST TO A LIQUID, BY OBSERVING THAT BITS OF
WOOD OF TIME.

0204195 ENERGY TRANSFORMATION (EVAPORATION)

0204195001 KNOW THAT WATER EVAPORATES TO BECOME A GAS, WATER VAPOR.

0204195002 UNDERSTAND HOW EVAPORATION IS EXPLAINED BY THE MOLECULAR THEORY.

0204195003 DESCRIBE HOW A DROP OF WATER EVAPORATES AS IT CHANGES FROM LIQ

APORATION:

PAGE

65

S TO BECOME A GAS, WATER VAPOR.

N IS EXPLAINED BY THE MOLECULAR THEORY.

TER EVAPORATES AS IT CHANGES FROM LIQUID TO WATER VAPOR, DUE TO A TEMPERATURE CHANGE.

0203200 ENERGY TRANSFORMATION (FOOD)

0203200001 INFER THAT ENERGY FROM FOOD IS RESPONSIBLE FOR GROWTH AND THE

0203200002 DEMONSTRATE THAT FOOD IS A FUEL BY USE OF BUTTER CANDLE.

0203200003 DEMONSTRATE THAT FOOD HAS ENERGY, BY BURNING A PAT OF BUTTER T

0203200004 KNOW THAT FOOD HAS ENERGY.

IS RESPONSIBLE FOR GROWTH AND THE ABILITY TO WORK.

FUEL BY USE OF BUTTER CANDLE.

ENERGY, BY BURNING A PAT OF BUTTER THAT HAS BEEN FASHIONED INTO A CANDLE.

0206205

ENERGY TRANSFORMATION (FORMS)

0206205001

EXPLAIN WHAT FORM OF ENERGY (CHEMICAL, MECHANICAL, HEAT, LIGHT, SOUND, ETC.) DIFFERENT OBJECTS HAVE, USE, OR PRODUCE TH

0206205002

FROM LIST OF COMMON OBJECTS, RECOGNIZE THOSE WHICH ARE IN A STATE OF MOTION).
WHICH ARE IN A STATE OF KINETIC ENERGY (ENERGY OF

(CHEMICAL, MECHANICAL, HEAT, LIGHT, SOUND, ELECTRICAL) AND/OR WHAT STATE OF ENERGY
PRESENT OBJECTS HAVE, USE, OR PRODUCE THAT MAKE IT POSSIBLE FOR THEM TO DO WORK,

RECOGNIZE THOSE WHICH ARE IN A STATE OF POTENTIAL ENERGY (STORED ENERGY) AND THOSE
KINETIC ENERGY (ENERGY OF MOTION).

0203210 ENERGY TRANSFORMATION (HEAT)

0203210001 KNOW THAT HEAT IS A FORM OF ENERGY.

0203210002 GIVE ONE EXAMPLE OF HEAT ENERGY DOING WORK.

0203210003 SHOW THAT HEATED AIR MOVES BY HOLDING PAPER STRIPS OVER THE

0203210004 DEMONSTRATE THAT HEAT IS A FORM OF ENERGY, BY USING CANDLES

0203210005 EXPLAIN HOW AN EXPERIMENT SHOWS THAT HEAT IS A FORM OF ENERGY.

0203210006 GIVEN OBJECTS, PREDICT WHICH OBJECT IS A HEAT CONDUCTOR AND WHICH
AND TEST YOUR PREDICTIONS.

0203210007 DEMONSTRATE HOW APPLICATION OF HEAT BREAKS UP MOLECULE OF SUGAR

0204210 ENERGY TRANSFORMATION (HEAT)

0204210001 DESCRIBE THE STATE TO WHICH MATTER WILL CHANGE IF HEAT ENERGY IS
CONTACT.

0204210002 GIVEN TWO STATES OF MATTER, TELL IF HEAT MUST BE ADDED OR TAKEN
AND GIVE THE NAME OF THE PROCESS.

0204210003 GIVEN DESCRIPTION OR ILLUSTRATION OF A CHANGE OF STATE OF LIQUID
FREEZING POINT OR IF IT WAS AT BOILING POINT.

0205210 ENERGY TRANSFORMATION (HEAT)

0205210001 KNOW THAT HEAT IS ONE FORM OF ENERGY THAT CAUSES MOTION OF MOLECULES

0205210002 READ A THERMOMETER TO THE NEAREST DEGREE IN EITHER FAHRENHEIT

ENERGY.

GY DOING WORK.

HOLDING PAPER STRIPS OVER THE RADIATOR:

FORM OF ENERGY, BY USING CANDLES BELOW AN ALUMINUM FOIL PINWHEEL TO REVOLVE.

OWS THAT HEAT IS A FORM OF ENERGY.

OBJECT IS A HEAT CONDUCTOR AND WHICH IS NOT, EXPLAIN WHY YOU PREDICTED IN THAT WAY,

OF HEAT BREAKS UP MOLECULE OF SUGAR.

MATTER WILL CHANGE IF HEAT ENERGY IS ADDED OR TAKEN AWAY, USING THE TERMS EXPAND OR

TELL IF HEAT MUST BE ADDED OR TAKEN AWAY TO GO FROM THE FIRST TO THE SECOND STATE
CESS.

ATION OF A CHANGE OF STATE OF LIQUID, EXPLAIN IF TEMPERATURE OF SUBSTANCE WAS AT
AT BOILING POINT.

F ENERGY THAT CAUSES MOTION OF MOLECULES---AND OF GROUPS OF MOLECULES.

AREST DEGREE IN EITHER FAHRENHEIT SCALE OR THE CENTIGRADE SCALE.

0205210003	DEMONSTRATE THE BOILING POINTS OF VARIOUS WATER	SOLUTION
0205210004	IDENTIFY THE BOILING AND FREEZING POINTS OF WATER ON	BOTH THE
0205210005	DESCRIBE HOW HEAT AFFECTS THE AMOUNT OF SOLID SUBSTANCE	THAT WILL
0205210006	GIVEN TWO STATES OF MATTER, EXPLAIN WHAT OCCURS WHEN	HEAT IS
	TO THE MOLECULES BETWEEN THE FIRST AND SECOND STATE AND	GIVE THE
0205210007	GIVEN A SUBSTANCE, DESCRIBE EFFECT THAT HEAT HAS ON THE	VOLUME OF
	ACTION OR MOTION.	

0206210 ENERGY TRANSFORMATION (HEAT)

0206210001	KNOW THAT THE NATURE OF HEAT HAS ENABLED MAN TO DEVELOP	WAYS TO
0206210002	KNOW THAT HEAT IS THE KINETIC ENERGY OF MOLECULES.	
0206210003	KNOW THAT HEAT IS TRANSFERRED FROM ONE PLACE TO ANOTHER	BY MOVING
0206210004	KNOW THAT HEAT ENERGY IS TRANSFERRED FROM MOLECULE TO	MOLECULE
0206210005	THE CHILD WILL DESCRIBE THAT THE VACUUM FLASK ACTS AS AN INSULATOR	HEAT.
0206210006	KNOW THAT A SUBSTANCE BECOMES COOLER AS A RESULT OF	TRANSFER
0206210007	KNOW THAT HEAT GIVES GREATER KINETIC ENERGY TO	MOLECULE
0206210008	TELL DIFFERENCE BETWEEN HEAT AND TEMPERATURE. DISCUSS	HEAT IN
	AND TEMPERATURE AS MEANS OF MEASURING HOT AND COLD.	

POINTS OF VARIOUS WATER SOLUTIONS.

FREEZING POINTS OF WATER ON BOTH THE FAHRENHEIT SCALE AND THE CENTIGRADE SCALE.

THE AMOUNT OF SOLID SUBSTANCE THAT WILL DISSOLVE IN WATER.

EXPLAIN WHAT OCCURS WHEN HEAT IS ADDED OR TAKEN AWAY. EXPLAIN WHAT HAS HAPPENED
THE FIRST AND SECOND STATE AND GIVE THE NAME OF THE PROCESS.

THE EFFECT THAT HEAT HAS ON THE VOLUME OF SUBSTANCE AND ON THE SPEED OF THE MOLECULAR

(AT)

HEAT HAS ENABLED MAN TO DEVELOP WAYS TO MODIFY AND CONTROL HIS ENVIRONMENT.

KINETIC ENERGY OF MOLECULES.

TRANSFERRED FROM ONE PLACE TO ANOTHER BY MOVING MOLECULES.

TRANSFERRED FROM MOLECULE TO MOLECULE IT CANNOT BE TRANSFERRED IN A VACUUM.

THAT THE VACUUM FLASK ACTS AS AN INSULATOR, WHICH SLOW DOWN OR PREVENTS THE TRAVEL OF

BECOMES COOLER AS A RESULT OF TRANSFER OF ITS HEAT ENERGY.

TRANSFER KINETIC ENERGY TO MOLECULES.

TEMPERATURE. DISCUSS HEAT IN TERMS OF NUMBER AND SPEED OF MOLECULES IN MOTION
DURING HOT AND COLD.

0206215	ENERGY TRANSFORMATION (INTERNAL COMBUSTION)	
0206215001	GIVEN DRAWINGS SHOWING MOVEMENT OF AIR OR WATER PRODUCTION OF KINETIC ENERGY.	MOLECULES,
0206215002	GIVEN DESCRIPTION OF MACHINE ACTIVITIES THAT SHOW ELECTRICAL), MATCH EACH MACHINE ACTIVITY WITH FORM OF	DIFFERENT F ENERGY IT U
0206215003	GIVEN DESCRIPTION OF AN INTERNAL COMBUSTION ENGINE, MECHANICAL ENERGY IS BEING USED OR PRODUCED.	RECOGNIZE W

INTERNAL COMBUSTION)

PAGE 70

EMENT OF AIR OR WATER
GY.

MOLECULES, RECOGNIZE WHICH ILLUSTRATES THE GREATEST

NE ACTIVITIES THAT SHOW
CHINE ACTIVITY WITH FORM OF

DIFFERENT FORMS OF ENERGY (CHEMICAL, MECHANICAL, OR
ENERGY IT USES OR PRODUCES.

INTERNAL COMBUSTION ENGINE,
USED OR PRODUCED.

RECOGNIZE WHERE POTENTIAL, KINETIC, CHEMICAL, AND

0206220	ENERGY TRANSFORMATION (KINETIC)	
0206220001	KNOW THAT MOLECULES MAY BE GIVEN KINETIC ENERGY IN A	CHEMICAL
0206220002	KNOW THAT AN INCREASE IN KINETIC ENERGY CAN PRODUCE AN	UNBALANCE
0206220003	KNOW THAT ACTION AND REACTION, RESULTING FROM KINETIC FORCE.	ENERGY
0206220004	KNOW THAT ROCKETS AND JETS OPERATE ON THE SAME INTO FORCE.	PRINCIPLE
0206220005	KNOW THAT A TRANSFER OF ELECTRONS FROM ONE OBJECT TO ELECTRONS MOVE, THEY HAVE KINETIC ENERGY.	ANOTHER
0206220006	DESCRIBE RESULTS OF KINETIC ENERGY ACTIVITY. DUE TO AS GAS IS COMPRESSED.	MOLECULES

(KINETIC)

PAGE 71

BY BE GIVEN KINETIC ENERGY IN A CHEMICAL CHANGE.

IN KINETIC ENERGY CAN PRODUCE AN UNBALANCED FORCE.

REACTION, RESULTING FROM KINETIC ENERGY GIVEN TO MOLECULES CAN PRODUCE AN UNBALANCED

JETS OPERATE ON THE SAME PRINCIPLE, BUT ROCKETS CONVERTS KINETIC ENERGY DIRECTLY

OF ELECTRONS FROM ONE OBJECT TO ANOTHER GIVES THEM POTENTIAL ENERGY WHEN THE
HAVE KINETIC ENERGY.

KINETIC ENERGY ACTIVITY. DUE TO MOLECULES BOUNCING OFF ONE ANOTHER WITH GREATER ENERGY

03225 ENERGY TRANSFORMATION (LIGHT AND SOUND)

0203225001 IDENTIFY DEFINITIONS OF LIGHTS AND SOUND AND HOW THEY TRAVEL. (I

0204225 ENERGY TRANSFORMATION (LIGHT AND SOUND)

0204225001 STATE THE DIFFERENCES IN LIGHT AND SOUND AS FORMS OF ENERGY.

0206225 ENERGY TRANSFORMATION (LIGHT AND SOUND)

0206225001 KNOW THAT THE DIRECTION OF A MOVING OBJECT CAN BE DETERMINED

LIGHT AND SOUND)

PAGE 72

LIGHTS AND SOUND AND HOW THEY TRAVEL. (I.E., SPEED THROUGH AIR, WATER, SOLIDS, ETC.)

LIGHT AND SOUND)

LIGHT AND SOUND AS FORMS OF ENERGY.

LIGHT AND SOUND)

OF A MOVING OBJECT CAN BE DETERMINED BY WAVELENGTHS OF LIGHT OR SOUND.

0203230 ENERGY TRANSFORMATION (LIQUID)

0203230001 KNOW THAT LIQUID CHANGES TO A GAS.

0206230 ENERGY TRANSFORMATION (LIQUID)

0206230001 DEMONSTRATE MOTION OF INK PARTICLES ADD FEW DROPS OF INK IN G.
WATER.

0206230002 THE CHILD WILL DESCRIBE EXAMPLES OF BERNOULLI'S DISCOVERY
PRESSURE WITHIN THE FLUID.

LIQUID)

PAGE

73

TO A GAS.

LIQUID)

K PARTICLES ADD FEW DROPS OF INK IN GLASS OF WATER. INK WILL SPREAD THROUGHOUT

EXAMPLES OF BERNOULLI'S
D.

DISCOVERY THAT THE FASTER A FLUID MOVES THE LOWER THE

0206235 ENERGY TRANSFORMATION (MASS)

0206235001 TELL THE DIFFERENCE BETWEEN OPERATIONAL DEFINITIONS OF WEIGHT

0206235002 DESCRIBE HOW MASS, VOLUME, AND DENSITY ARE RELATED WHEN GIVEN

IN OPERATIONAL DEFINITIONS OF WEIGHT AND OF MASS.

AND DENSITY ARE RELATED WHEN GIVEN INFORMATION ON MASS AND VOLUME OF VARIOUS OBJECTS.

0203240	ENERGY TRANSFORMATION (MIXTURE)	
0203240001	KNOW THAT A MIXTURE CONTAINS SUBSTANCES THAT DO NOT	CHANGE WHEN M
0203240002	DESCRIBE THAT A MIXTURE CONTAINS SUBSTANCES THAT DO NOT	CHANGE WHEN M
	FILINGS AND THEN OBSERVING THE MIXTURE WITH A MAGNIFYING GLASS.	
0203240003	KNOW THAT A MIXTURE OF SUGAR AND IRON FILINGS CAN BE	SEPARATED INTO
	MAGNET TO REMOVE THE IRON FILINGS.	
0203240004	DEMONSTRATE THAT A MIXTURE OF SUGAR AND IRON FILINGS CAN BE SEPARATED	
	MAGNET TO REMOVE THE IRON FILINGS.	
0203240005	KNOW THAT A MIXTURE OF SUGAR AND SAND CAN BE CHANGED	INTO A NEW MIX
	DISSOLVING THE SUGAR, AND LEAVING THE SAND.	
0203240006	DEMONSTRATE THAT A MIXTURE OF SUGAR AND SAND CAN BE	CHANGED INTO A
	WATER, DISSOLVING THE SUGAR, AND LEAVING THE SAND.	
0203240007	KNOW HOW TO SEPARATE LIQUID FROM SAND, BY POURING	THROUGH THE M
0203240008	DEMONSTRATE HOW TO SEPARATE THE LIQUID FROM THE SAND,	BY POURING THE
	LEAVING THE SAND.	

(URF)

PAGE 75

SUBSTANCES THAT DO NOT CHANGE WHEN MIXED TOGETHER.

CONTAINS SUBSTANCES THAT DO NOT CHANGE WHEN MIXED TOGETHER, BY MIXING SUGAR AND IRON
THE MIXTURE WITH A MAGNIFYING GLASS.

SUGAR AND IRON FILINGS CAN BE SEPARATED INTO THE ORIGINAL SUBSTANCES, BY USING A
FILINGS.

OF SUGAR AND IRON FILINGS CAN BE SEPARATED INTO THE ORIGINAL SUBSTANCES, BY USING A
FILINGS.

SUGAR AND SAND CAN BE CHANGED INTO A NEW MIXTURE BY PUTTING THE MIXTURE IN WATER,
LEAVING THE SAND.

OF SUGAR AND SAND CAN BE CHANGED INTO A NEW MIXTURE BY PUTTING THE MIXTURE IN
WATER, AND LEAVING THE SAND.

FROM SAND, BY POURING THROUGH THE MILK CARTON FILTER, LEAVING THE SAND.

THE LIQUID FROM THE SAND, BY POURING THE LIQUID THROUGH THE MILK CARTON FILTER,

0203245 ENERGY TRANSFORMATION (MOLECULAR)

0203245001 KNOW THAT ODOR MUST BE DUE TO SOME OF THE TINIEST PARTS OF MOTHBALL NOSE.

0203245002 DESCRIBE THAT THE ODOR MUST BE DUE TO SOME OF THE TINIEST PARTS OF MOTHBALLS TO HIS NOSE.

0203245003 DEMONSTRATE AND/OR ANSWER QUESTIONS ABOUT SUGAR AS A COMPOUND AND

0203245004 DEMONSTRATE AND/OR ANSWER QUESTIONS ABOUT THE BREAK UP OF A MOLECULE

0204245 ENERGY TRANSFORMATION (MOLECULAR)

0204245001 KNOW THAT MATTER IS MOLECULAR IN NATURE.

0204245002 KNOW THAT THE SPACE BETWEEN MOLECULES INCREASES AS A SUBSTANCE EXPANDS

0204245003 KNOW THAT MOLECULES CAN BE MOVED AROUND TO FORM COMPOUNDS OF DIFFERENT TYPES

0204245004 KNOW THAT ENERGY IS RELEASED DURING A MOLECULAR CHANGE.

0204245005 KNOW THAT A LOSS OR GAIN OF ENERGY AFFECTS MOLECULAR MOTION.

0204245006 KNOW THAT A LOSS OR GAIN IN ENERGY AFFECTS MOLECULAR MOTION.

0204245007 KNOW THAT MOLECULES OF SUBSTANCES INTERACT.

0204245008 KNOW THAT AIR AND WATER CANNOT OCCUPY THE SAME SPACE AT THE SAME TIME

0204245009 THROUGH THE USE OF MODELS, DISCOVER THAT DIFFERENT COMPOUNDS HAVE DIFFERENT PROPERTIES

AR)

PAGE 76

SOME OF THE TINIEST PARTS OF MOTBALLS SPREADING FROM THE SOLID MOTBALLS TO HIS
DUE TO SOME OF THE TINIEST PARTS OF MOTBALLS SPREADING FROM THE SOLID
STIONS ABOUT SUGAR AS A COMPOUND AND ITS THREE ELEMENTS.
STIONS ABOUT THE BREAK UP OF A MOLECULE OF SUGAR.

AR)

IN NATURE.

MOLECULES INCREASES AS A SUBSTANCE EXPANDS.
VED AROUND TO FORM COMPOUNDS OR TO OBTAIN ELEMENTS.
DURING A MOLECULAR CHANGE.
ENERGY AFFECTS MOLECULAR MOTION.
ENERGY AFFECTS MOLECULAR MOTION.
NCES INTERACT.
T OCCUPY THE SAME SPACE AT THE SAME TIME.

SCOVER THAT DIFFERENT COMPOUNDS HAVE DIFFERENT NUMBERS OF ATOMS IN THEIR

0205245	ENERGY TRANSFORMATION (MOLECULAR)	
0205245001	KNOW THAT A MOLECULE IS THE SMALLEST PARTICLE OF A	SUBSTANCE
0205245002	DEMONSTRATE HOW MOLECULES OF PERFUME CAN PASS THROUGH RUBBER BA PUSH IN CLEAN JAR FOR 15 MINUTES. ODOR IS IN JAR.	
0205245003	DEMONSTRATE FORMATION OF CRYSTALS. DISSOLVE 2/3 CUP OF SUGAR IN ALLOW LIQUID TO COOL. CRYSTALS FORM ON BOLT.	
0205245004	CONSTRUCT MODEL OF DRY ICE ROCKET ENGINE USE PINT MILK CARTON, T	
0205245005	DEMONSTRATE MILK CARTON ENGINE IT REVOLVES AS DRY ICE CONTACTS THROUGH HOLE IN ONE DIRECTION. CARTON REVOLVES IN ANOTHER D	
0206245	ENERGY TRANSFORMATION (MOLECULAR)	
0206245001	KNOW THAT WHEN A SUBSTANCE BECOMES WARMER, THE MOTION OF ITS MOLEC	
0206245002	KNOW THAT THE ENERGY OF MOVING MOLECULES OF AIR AND WATER PRO	
0206245003	KNOW THAT A CHANGE OF STATE INCREASES OR DECREASES THE KINETIC E	
0206245004	DESCRIBE HOW KINETIC ENERGY IS USED WHEN BOILING WATER BLOWS THE	
0206245005	DEMONSTRATE MOVING MOLECULES DO WORK. PLACE WATER IN TEST TUBE CAUSING CORK TO BE BLOWN OUT.	
0206245006	DESCRIBE HYDROGEN GAS. COLLECT FROM WATER WITH HOFFMAN APPARATUS LIGHTED MATCH BROUGHT TO MOUTH OF TUBE.	

ULAR)

SMALLEST PARTICLE OF A SUBSTANCE WHICH RETAINS THE PROPERTIES OF THE SUBSTANCE.

PERFUME CAN PASS THROUGH RUBBER BALLOON. PLACE DROPS IN BALLOON, INFLATE, SEAL, UNKNOTS. ODOR IS IN JAR.

CRYSTALS. DISSOLVE 2/3 CUP OF SUGAR IN 1/4 CUP BOILING WATER. SUSPEND BOLT IN LIQUID UNTIL SUGAR FORMS ON BOLT.

ROCKET ENGINE USE PINT MILK CARTON, THREAD, TOOTHPICK, CLAY, WATER, DRY ICE.

ENGINE IT REVOLVES AS DRY ICE CONTACTS WATER. PRODUCES CARBON DIOXIDE. IT ESCAPES FROM CARTON REVOLVES IN ANOTHER DIRECTION.

ULAR)

BECOMES WARMER, THE MOTION OF ITS MOLECULES INCREASES.

MOVING MOLECULES OF AIR AND WATER PROVIDE A FORCE THAT CAN BE HARNESSSED TO DO WORK.

INCREASES OR DECREASES THE KINETIC ENERGY OF MOLECULES OF MATTER.

THIS IS USED WHEN BOILING WATER BLOWS THE CORK FROM THE TEST TUBE.

TO DO WORK. PLACE WATER IN TEST TUBE, FIT GREASED CORK IN PLACE AND HEAT TO BOIL.

EXTRACT FROM WATER WITH HOFFMAN APPARATUS. OBSERVE THAT GLASS EXPLODES WITH A POP WHEN THE BOTTOM OF TUBE IS HEATED.

0206250	ENERGY TRANSFORMATION (NUCLEAR)	
0206250001	KNOW THAT IN NUCLEAR REACTIONS, A LOSS OF MATTER IS A REMAINS UNCHANGED.	GAIN IN E
0206250002	KNOW THAT ENERGY CAN BE RELEASED BY FISSION OF ATOMIC	NUCLEI
0206250003	KNOW THAT A CHAIN REACTION DEPENDS ON THE QUANTITY OF	URANIUM WH
0206250004	KNOW THAT NEUTRONS, WHEN TRAVELING AT THE RIGHT SPEED, NUCLEI CONTROLS THE RATE OF FISSION.	CAUSE FISS
0206250005	KNOW THAT NUCLEAR ENERGY CAN BE HARNESSSED TO MACHINES TO DEVELOP OT	
0206250006	KNOW THAT NUCLEAR ENERGY PRODUCES GREAT FORCES.	
0206250007	KNOW THAT NUCLEAR ENERGY HAS PRODUCED USEFUL ISOTOPES.	
0206250008	KNOW THAT IN A NUCLEAR REACTION, MATTER LOST EQUALS	ENERGY GAI
0206250009	KNOW THAT IN NUCLEAR REACTIONS, THE NUCLEI OF ATOMS ARE DIVIDED (F	
0206250010	DEMONSTRATE USE OF GEIGER COUNTER. RECORD COUNTS ON	GUAGE FROM
0206250011	MAKE MODEL OF NUCLEAR REACTOR.	
0206250012	KNOW THAT IN A FUSION REACTION, SOME MATTER IS CONVERTED TO TREMEND	
0206250013	KNOW THAT GREAT ENERGY STARTS A FUSION RFACTION	GREAT ENERGY IS
0206250014	GIVEN DESCRIPTION OF AN ATOM BEFORE AND AFTER NUCLEAR NATURAL RADIOACTIVE DECAY, ARTIFICIAL RADIOACTIVE DECAY	PROCESS HA (FISSION),

A LOSS OF MATTER IS A GAIN IN ENERGY AND THE SUM OF THE MATTER AND ENERGY

ED BY FISSION OF ATOMIC NUCLEI THE RATE OF FISSION CAN BE CONTROLLED.

ENDS ON THE QUANTITY OF URANIUM WHICH CAN UNDERGO FISSION.

LING AT THE RIGHT SPEED, CAUSE FISSION. THE NUMBER OF NEUTRONS CAPTURED BY FISSION.

E HARNESSSED TO MACHINES TO DEVELOP OTHER FORMS OF ENERGY TO DO WORK.

CEES GREAT FORCES.

PRODUCED USEFUL ISOTOPES.

N, MATTER LOST EQUALS ENERGY GAINED.

, THE NUCLEI OF ATOMS ARE DIVIDED (FISSION) OR COMBINED (FUSION).

TER. RECORD COUNTS ON GUAGE FROM SOURCE, SUCH AS LUMINOUS CLOCK DIAL.

, SOME MATTER IS CONVERTED TO TREMENDOUS ENERGY.

A FUSION REACTION GREAT ENERGY IS RELEASED.

BEFORE AND AFTER NUCLEAR PROCESS HAS OCCURRED, EXPLAIN WHETHER ATOM WENT THROUGH ARTIFICIAL RADIOACTIVE DECAY (FISSION), OR FUSION.

0206250015

IDENTIFY BENEFICIAL (E.G., TREATMENT OF CANCER) AND THE DETRIMENTAL (E.G.,
NUCLEAR ENERGY).

PAGE 79

NT OF CANCER) AND THE DETRIMENTAL (E.G., RADIOACTIVE FALLOUT) ASPECTS OF

0204255 ENERGY TRANSFORMATION (OXIDATION)

0204255001 NAME THE BLACK SUBSTANCE AS CARBON AND THE LIQUID AS WATER IN

0204255002 DEMONSTRATE THAT A BLACK SUBSTANCE AND A LIQUID ARE FORMED WH

0204255003 KNOW THAT IRON AND OXYGEN COMBINE TO FORM IRON OXIDE, OR RUST.

0204255004 KNOW THAT OXYGEN RUSTS IRON MORE QUICKLY THAN AIR DOES.

0204255005 KNOW THAT SOME MOLECULES OF AIR SEEM TO DISAPPEAR WHEN IRON RUST

0204255006 DEMONSTRATE AS IRON RUSTS, THE AIR IN A CLOSED CONTAINER IS DIMINI

0204255007 DEMONSTRATE THAT, INSIDE A TEST TUBE CONTAINING WET STEEL WOOL
AS THE STEEL WOOL RUSTS.

0205255 ENERGY TRANSFORMATION (OXIDATION)

0205255001 KNOW THAT OTHER METALS COMBINE WITH OXYGEN TO FORM OXIDES
COMPOSITION.

0205255002 KNOW THAT RUSTING CAN BE PREVENTED BY KEEPING OXYGEN AND IRON ATOM

0205255003 KNOW THAT RUSTING MAY BE HASTENED BY RAPID RELEASE OF OXYGEN IN

0205255004 DEMONSTRATE FORMATION OF RUST. COLLECT OXYGEN AFTER PLACING A
SECOND. ALLOW TUBES TO SET TIL RUST FORMS.

0205255005 DESCRIBE RUST THAT FORMS AS A CHEMICAL COMPOUND, IRON OXIDE.

0205255006 KNOW THAT THE PRODUCTION OF CARBON DIOXIDE IS EVIDENCE OF OXIDAT

THE LIQUID AS WATER IN THE HEATING OF SUGAR OVER A FLAME.

A LIQUID ARE FORMED WHEN SUGAR IN A TEST TUBE IS HEATED OVER A FLAME.

FORM IRON OXIDE, OR RUST.

KLY THAN AIR DOES.

TO DISAPPEAR WHEN IRON RUSTS.

A CLOSED CONTAINER IS DIMINISHED.

CONTAINING WET STEEL WOOL INVERTED IN WATER, THE WATER LINE WILL RISE

OXYGEN TO FORM OXIDES OXIDES CAN BE IDENTIFIED BY THEIR CHEMICAL

KEEPING OXYGEN AND IRON ATOMS FROM COMBINING.

RAPID RELEASE OF OXYGEN IN A CHEMICAL REACTION.

CT OXYGEN AFTER PLACING AN IRON NAIL IN ONE TEST TUBE, STEEL WOOL IN
FORMS.

L COMPOUND, IRON OXIDE.

OXIDE IS EVIDENCE OF OXIDATION WITHIN LIVING THINGS.

0205255007	INVESTIGATE OXIDATION IN SEVERAL EXAMPLES OF LIVING	THINGS.
0205255008	KNOW THAT OXYGEN IS AN ACTIVE ELEMENT IT COMBINES	READILY
	COMPOUNDS.	
0205255009	KNOW THAT IN OXIDATION, MATTER IS NEITHER GAINED NOR	LOST.

ERAL EXAMPLES OF LIVING THINGS.

ELEMENT IT COMBINES READILY WITH MANY OTHER ELEMENTS TO FORM MANY OXYGEN

ER IS NEITHER GAINED NOR LOST.

0204260 ENERGY TRANSFORMATION (OXYGEN)

0204260001 KNOW THAT OXYGEN AND CARBON DIOXIDE FORM A CYCLE.

0204260002 STATE THE FIVE IMPORTANT FACTS ABOUT THE OXYGEN CYCLE.

0204260003 NAME BUBBLES OF GAS, FROM AQUARIUM PLANTS, AS OXYGEN.

0204260004 DESCRIBE THAT BUBBLES RISE FROM AQUARIUM PLANTS GROWING IN SUNLIGHT. LIGHT IS CUT OFF.

0204260005 DEMONSTRATE THE COLLECTION OF OXYGEN BY ADDING HYDROGEN PEROXIDE TO A TEST TUBE IN WATER, CAUSING GAS TO FORM IN THE TEST TUBE.

0205260 ENERGY TRANSFORMATION (OXYGEN)

0205260001 CONSTRUCT OXYGEN GAS GENERATOR. USE PLASTIC TUBING, FLASK, BUBBLES OF OXYGEN PASS THROUGH WATER. WATER DISPLACED FROM

0205260002 DEMONSTRATE USE OF APPARATUS TO COLLECT OXYGEN.

DE FORM A CYCLE.

OUT THE OXYGEN CYCLE.

M PLANTS, AS OXYGEN.

QUARIUM PLANTS GROWING IN SUNLIGHT, AND THAT THE BUBBLES DECREASE WHEN THE

GEN BY ADDING HYDROGEN PEROXIDE TO A TEST TUBE CONTAINING YEAST, INVERTING THE
TO FORM IN THE TEST TUBE, DISPLACING THE WATER.

USE PLASTIC TUBING, FLASK, CLAY- 3 PER CENT HYDROGEN PEROXIDE, YEAST,
TER. WATER DISPLACED FROM TUBE.

COLLECT OXYGEN.

0206265 ENERGY TRANSFORMATION (PRESSURE)

0206265001 KNOW THAT DIFFERENCES IN PRESSURE RESULT IN A FORCE ACTING IN T

0206265002 KNOW THAT A DIFFERENCE IN PRESSURE MAY RESULT IN MOTION.

0206265003 KNOW THAT AN INCREASE IN PRESSURE RAISES TEMPERATURE, AND A RISE

(PRESSURE)

PAGE

83

IN PRESSURE RESULT IN A FORCE ACTING IN THE DIRECTION OF THE LOWER PRESSURE.

IN PRESSURE MAY RESULT IN MOTION.

IN PRESSURE RAISES TEMPERATURE, AND A RISE IN TEMPERATURE INCREASES PRESSURE.

0203270 ENERGY TRANSFORMATION (SOLAR)

0203270001 STATE THE EARTH'S CHIEF SOURCE OF RADIANT ENERGY.

0203270002 EXPLAIN HOW WIND IS CAUSED BY HEAT FROM THE SUN.

0203270003 STATE THAT THERE IS STORED ENERGY IN A FUEL AND THAT THIS ENERGY
THAT ONCE GREW IN SUNLIGHT.

0203270004 DEMONSTRATE THAT LIGHT (RADIANT ENERGY) CAN CHANGE INTO HEAT, BY
SUNLIGHT ONTO THE BULB OF A THERMOMETER, CAUSING THE LIQUID TO

0203270005 KNOW THAT LIGHT (RADIANT ENERGY) CAN CHANGE INTO HEAT.

0203270006 USE A RADIOMETER TO DEMONSTRATE HOW LIGHT FROM THE SUN CAN BE CH

0205270 ENERGY TRANSFORMATION (SOLAR)

0205270001 KNOW THAT THE STORED ENERGY OF THE SUN IS TRANSFORMED INTO OTHER
ON THE PAST AS WELL AS ON THE PRESENT.

RADIANT ENERGY.

AT FROM THE SUN.

IN A FUEL AND THAT THIS ENERGY WAS PROBABLY STORED BY PLANTS AND ANIMALS

ENERGY) CAN CHANGE INTO HEAT, BY USING A MAGNIFYING GLASS AND BY FOCUSING
THERMOMETER, CAUSING THE LIQUID TO RISE.

CAN CHANGE INTO HEAT.

HOW LIGHT FROM THE SUN CAN BE CHANGED TO ENERGY OF MOTION.

THE SUN IS TRANSFORMED INTO OTHER KINDS OF ENERGY MAN'S ENVIRONMENT DEPENDS
ON IT.

0202275	ENERGY TRANSFORMATION (SUBSTANCE)	
0202275001	KNOW THAT SUGAR WILL DISSOLVE EVENLY IN WATER, AND THE	PARTICLES TASTED.
0202275002	DEMONSTRATE THAT SUGAR WILL DISSOLVE EVENLY IN WATER,	AND THE PA BE TASTED.
0202275003	NAME THE PARTICLES IN SUGAR-WATER AS MOLECULES.	
0202275004	KNOW THAT THE PARTICLES IN SUGAR-WATER ARE MOLECULES.	
0202275005	KNOW THAT SUGAR MOLECULES IN WATER PASS THROUGH A COTTON FILTER, AND	PARTICLES NOW VISIBLE.
0202275006	DEMONSTRATE THAT SUGAR MOLECULES IN WATER PASS THROUGH	A COTTON F LEAVING SUGAR PARTICLES NOW VISIBLE.
0203275	ENERGY TRANSFORMATION (SUBSTANCE)	
0203275001	KNOW THAT A SOLID DISSOLVED IN SOLUTION CAN BE RECOVERED AS A SOLID.	
0203275002	DEMONSTRATE THAT A SOLID DISSOLVED IN SOLUTION CAN BE	RECOVERED A HEATING THE WATER, CAUSING IT TO BOIL AWAY, LEAVING NEARLY ORIG
0203275003	KNOW THAT A SUBSTANCE CAN BE BROKEN APART INTO OTHER	SUBSTANCES.
0203275004	DEMONSTRATE THAT A SUBSTANCE CAN BE BROKEN APART INTO	OTHER SUBST COLLECT ON A GLASS INVERTED OVER IT ALSO CAUSING MATERIAL LE
0206275	ENERGY TRANSFORMATION (SUBSTANCE)	
0206275001	THE CHILD WILL DESCRIBE THE PRESENCE OF SUGAR IN THE	TEST TUBE W DIASTASE CHANGING STARCH TO SUGAR.

STANCE)

PAGE

85

OLVE EVENLY IN WATER, AND THE PARTICLES OF SUGAR WILL NOT BE VISIBLE BUT CAN BE

L DISSOLVE EVENLY IN WATER, AND THE PARTICLES OF SUGAR WILL NOT BE VISIBLE BUT CAN

AR-WATER AS MOLECULES.

N SUGAR-WATER ARE MOLECULES.

IN WATER PASS THROUGH A COTTON FILTER, AND THAT THE WATER CAN EVAPORATE LEAVING SUGAR

LECULES IN WATER PASS THROUGH A COTTON FILTER, AND THAT THE WATER CAN EVAPORATE
OW VISIBLE.

STANCE)

ED IN SOLUTION CAN BE RECOVERED AS A SOLID.

DISSOLVED IN SOLUTION CAN BE RECOVERED AS A SOLID BY DISSOLVING SALT IN WATER THEN
S IT TO BOIL AWAY, LEAVING NEARLY ORIGINAL AMOUNT OF SALT LEFT AS SOLID.

BE BROKEN APART INTO OTHER SUBSTANCES.

NCE CAN BE BROKEN APART INTO OTHER SUBSTANCES, BY HEATING SUGAR, CAUSING STEAM TO
ED OVER IT ALSO CAUSING MATERIAL LEFT TO TURN BLACK AND CHANGE.

STANCE)

HE PRESENCE OF SUGAR IN THE TEST TUBE WHICH TURNED YELLOW-ORANGE, DUE TO THE
TO SUGAR.

0206280

ENERGY TRANSFORMATION (VOLUME)

0206280001

USE FORMULA (L X W X H) FOR FINDING VOLUME OF A REGULAR SOLID (SUCH AS R
UNIT OF VOLUME (CUBIC CENTIMETER). CE

(VOLUME)

PAGE 86

FOR FINDING VOLUME OF A REGULAR SOLID (SUCH AS RECTANGULAR PRISM) USING BASIC METRIC CENTIMETER).

0202285	ENERGY TRANSFORMATION (WATER)
0202285001	KNOW THAT BOILING WATER CAUSES WATER TO CHANGE TO STEAM, AND THIS
0202285002	DESCRIBE THAT BOILING WATER CAUSES WATER TO CHANGE TO STEAM, A
0202285003	KNOW THAT BOILING WATER CAUSES STEAM, AND THAT THE STEAM TAKES UP APART.
0202285004	DESCRIBE THAT BOILING WATER CAUSES STEAM, AND THAT THE STEAM TA APART.
0203285	ENERGY TRANSFORMATION (WATER)
0203285001	KNOW THAT MOVING WATER HAS ENERGY.
0203285002	DEMONSTRATE THAT MOVING WATER HAS ENERGY, BY POURING WATER OVER TO TURN.
0203285003	USE A PINWHEEL TO DEMONSTRATE THAT MOVING WATER CAN MOVE OBJECTS.
0203285004	KNOW THAT THE WEIGHT OF WATER DOES NOT CHANGE AS WATER CHANGES
0203285005	DEMONSTRATE THAT THE WEIGHT OF WATER DOES NOT CHANGE AS WATER CHA ICE BEFORE AND AFTER THE ICE MELTS.
0203285006	KNOW THAT WATER CAN BE CHANGED QUICKLY FROM SOLID TO GAS
0203285007	DEMONSTRATE THAT WATER CAN BE CHANGED QUICKLY FROM SOLID TO GAS BY BOILING.
0204285	ENERGY TRANSFORMATION (WATER)
0204285001	KNOW THAT FREEZING WATER EXPANDS.

ER)

USES WATER TO CHANGE TO STEAM, AND THIS CAN DO WORK.

R CAUSES WATER TO CHANGE TO STEAM, AND THIS CAN DO WORK.

USES STEAM, AND THAT THE STEAM TAKES UP MORE ROOM DUE TO MOLECULES MOVING FARTHER

R CAUSES STEAM, AND THAT THE STEAM TAKES UP MORE ROOM DUE TO MOLECULES MOVING FARTHER

ER)

ENERGY.

TER HAS ENERGY, BY POURING WATER OVER THE PINWHEEL, CAUSING THE VANES OF THE WHEEL

ATE THAT MOVING WATER CAN MOVE OBJECTS.

TER DOES NOT CHANGE AS WATER CHANGES FROM LIQUID TO SOLID.

T OF WATER DOES NOT CHANGE AS WATER CHANGES FROM LIQUID TO SOLID BY WEIGHING A JAR OF
ICE MELTS.

NGED QUICKLY FROM SOLID TO GAS

BE CHANGED QUICKLY FROM SOLID TO GAS BY PLACING A PAN OF ICE OVER HIGH HEAT, CAUSING

ER)

XPANDS.

0204285002 KNOW THAT THE EXPANSION OF WATER AS IT TURNS TO ICE HAS A GREAT FORCE.

0204285003 DEMONSTRATE THAT AS WATER FREEZES IT EXPANDS AND TAKES UP MORE SPACE BY CAUSING ICE TO RISE ABOVE TOP OF CAN.

0204285004 KNOW THAT ICE OCCUPIES A GREATER VOLUME THAN WATER.

0204285005 KNOW THAT WARM WATER RISES IN COLD WATER COLD WATER SINKS IN WARM WATER.

0204285006 KNOW THAT WARM WATER RISES BECAUSE IT EXPANDS...

0204285007 DEMONSTRATE THAT WARM WATER RISES AND COLD WATER SINKS.

0204285008 DEMONSTRATE THAT WARM WATER RISES WHEN MIXED WITH COLD WATER, BY POURING COLD WATER, CAUSING THE COLORED WATER TO REMAIN IN THE TOP HALF OF THE

0204285009 DEMONSTRATE THAT COLD WATER SINKS WHEN MIXED WITH WARM WATER, BY POURING WARM WATER, CAUSING THE COLORED WATER TO SETTLE IN THE BOTTOM HALF OF

0204285010 DEMONSTRATE THAT A DROP OF WATER DISAPPEARS AND CAN BE FORMED AGAIN, BY PLACING THE CONTAINER IN A WARM, THEN COOL

0204285011 KNOW THAT WATER BECOMES AN INVISIBLE GAS WHEN SUPER HEATED AND RETURNED TO LIQUID

0205285

ENERGY TRANSFORMATION (WATER)

0205285001

DEMONSTRATE FORCE OF ICE. FILL PLASTIC CONTAINER WITH WATER, TAP ON LID TO OPEN.

0206285

ENERGY TRANSFORMATION (WATER)

0206285001

DEMONSTRATE THAT COLD WATER CAN GIVE MORE HEAT TO THAN HOT WATER BOILING WATER TO ONE, COLD TO OTHER. COLD WATER BOILS ICE FASTER.

WATER AS IT TURNS TO ICE HAS A GREAT FORCE.

WHEN IT EXPANDS AND TAKES UP MORE SPACE BY FREEZING WATER IN OPEN CAN, THUS
OF CAN.

WATER VOLUME THAN WATER.

COLD WATER COLD WATER SINKS IN WARM WATER.

BECAUSE IT EXPANDS...

ICE AND COLD WATER SINKS.

ICE WHEN MIXED WITH COLD WATER, BY POURING COLORED WARM WATER INTO A GLASS OF
COLD WATER TO REMAIN IN THE TOP HALF OF THE JAR.

ICE WHEN MIXED WITH WARM WATER, BY POURING COLORED COLD WATER INTO A GLASS OF
COLD WATER TO SETTLE IN THE BOTTOM HALF OF THE JAR.

ICE DISAPPEARS AND CAN BE FORMED AGAIN, BY ENCLOSING THE DROP IN A CLOSED GLASS
WATER, THEN COOL PLACE.

ICE VISIBLE GAS WHEN SUPER HEATED AND RETURNS TO A LIQUID WHEN COOLED.

ICE PLASTIC CONTAINER WITH WATER, TAP ON LID, FREEZE WATER. LID WILL BE FORCED

ICE MELTS FASTER THAN HOT WATER. FILL TWO BEAKERS, WITH ICE, ADD 1/2 IN.
COLD WATER MELTS ICE FASTER.

0206285002	MAKE TABLE OF TEMPERATURES OF WATER AND TIME TO MELT	ICE.
0206285003	DEMONSTRATE MOTION OF WATER MOLECULES. COLUMN OF WATER	WILL MOVE
	FLASK WHEN FLASK IS WARMED BY HANDS.	
0206285004	THE CHILD WILL DEMONSTRATE THAT A COLUMN OF WATER DOES	NOT MOVE
	THE GLASS FLASK.	
0206285005	THE CHILD WILL DESCRIBE THAT THE WATER MOVES UP THE	GLASS TUB
	WATER IS WARMED.	

ES OF WATER AND TIME TO MELT ICE.

TER MOLECULES. COLUMN OF WATER WILL MOVE UP GLASS TUBE INSERTED AND SEALED INTO GLASS
ED BY HANDS.

TE THAT A COLUMN OF WATER DOES NOT MOVE UPWARD WHEN A VACUUM FLASK IS USED INSTEAD OF

THAT THE WATER MOVES UP THE GLASS TUBE, DUE TO FASTER MOVING MOLECULES, WHEN THE

0204290	EROSION
0204290001	DEFINE EROSION. NAME AND DESCRIBE THREE WAYS IT CAN OCCUR.
0204290002	DEMONSTRATE HOW WATER MOVES LAND BY SPRINKLING WATER ON SAND HILL CAUSING EROSION.
0204290003	DEMONSTRATE THAT MOVING WATER CAN CARRY SAND PARTICLES BY STIRRING WATER, CAUSING SAND PARTICLES TO RISE INTO SWIRLING WATER.
0204290004	DEMONSTRATE THAT FASTER MOVING WATER CARRIES MORE SAND PARTICLES THAN SLOWER MOVING WATER.
0204290005	KNOW HOW PLANTS REDUCE EROSION.
0205290	EROSION
0205290001	KNOW THAT WEATHERING AND EROSION BREAK DOWN THE HARDEST ROCK.
0205290002	KNOW THAT PLANTS ARE AGENTS OF EROSION.
0205290003	KNOW THAT WIND AND WATER ARE AGENTS OF EROSION.
0205290004	KNOW THAT WEATHERING AND EROSION HELP BUILD UP NEW LAND.
0205290005	KNOW THAT THE ACTION OF WATER SORTS OUT SOIL PARTICLES, WHICH SETTLE IN RIVERS AND OCEANS.
0205290006	EXPLAIN THE DIFFERENCE BETWEEN WEATHERING AND EROSION AND GIVE EXAMPLES FROM THE EARTH.

BE THREE WAYS IT CAN OCCUR.

BY SPRINKLING WATER ON SAND HILL CAUSING SAND TO FLOW DOWN GROOVE AS IN RIVER.

IN CARRY SAND PARTICLES BY STIRRING WATER IN JAR CONTAINING SAND AT BOTTOM
INTO SWIRLING WATER,

WATER CARRIES MORE SAND PARTICLES THAN SLOWER MOVING WATER BY VARYING SPEED WITH

BREAK DOWN THE HARDEST ROCK.

ROSION.

ENTS OF EROSION.

HELP BUILD UP NEW LAND.

RTS OUT SOIL PARTICLES, WHICH SETTLE IN LAYERS AND EVENTUALLY FORM SEDIMENTARY

WEATHERING AND EROSION AND GIVE EXAMPLES OF HOW EACH BREAK DOWN AND BUILD UP

0200295 FISH

0200295001 KNOW THAT A FISH BEGAN ITS LIFE AS AN EGG, WHICH HATCHED INTO A TINY ADULT.

0200295002 DESCRIBE HOW A FISH BEGAN ITS LIFE AS AN EGG, WHICH HATCHED INTO A TINY ADULT.

0200295003 KNOW HOW A FISH MOVES, GETS AIR, AND EATS.

0200295004 DESCRIBE HOW A FISH MOVES, GETS AIR, AND EATS, BY OBSERVING.

0200295005 IDENTIFY THE PARTS OF THE FISH AS TAIL, FINS, GILLS, AND SCALES.

0204295 FISH

0204295001 INVESTIGATE THE STRUCTURES THAT ADAPT A FISH FOR WATER LIVING.

0204295002 DESCRIBE HOW LIVING FISH IS FITTED FOR MOVING THROUGH WATER, BY CHARACTERISTICS AND ITS MOTIONS.

0204295003 DRAW AND LABEL THE FOOD CHAIN OF A SALMON.

0204295004 UNDERSTAND THE SALMON LIFE CYCLE IN WHICH THEY TRAVEL GREAT DISTANCES TO SPAWNING GROUNDS IN FRESH WATER.

0204295005 KNOW THAT THE LIFE CYCLE OF A SALMON IS REPEATED AS THE EGGS HATCH TO DEVELOP INTO ADULT SALMON.

0204295006 KNOW HOW THE SALMON'S LIFE CYCLE IS REPEATED OVER AND OVER.

0204295007 WRITE OR TELL THE STORY OF A SALMON'S LIFE CYCLE USING THE CORRECT WORDS.

LIFE AS AN EGG, WHICH HATCHED INTO A TINY FISH AND THEN GREW TO BECOME AN ADULT.

ITS LIFE AS AN EGG, WHICH HATCHED INTO A TINY FISH AND THEN GREW TO BECOME AN
AIR, AND EATS.

GETS AIR, AND EATS, BY OBSERVING A GOLDFISH IN AN AQUARIUM.

ISH AS TAIL, FINS, GILLS, AND SCALES.

THAT ADAPT A FISH FOR WATER LIVING.

FITTED FOR MOVING THROUGH WATER, BY OBSERVING AND RECORDING THE FISH'S
IONS.

IN OF A SALMON.

CYCLE IN WHICH THEY TRAVEL GREAT DISTANCES FROM FEEDING GROUNDS IN SALT WATER TO
WATER.

A SALMON IS REPEATED AS THE EGGS HATCH AND THE SALMON YOUNG RETURNED TO SALT WATER
N.

CYCLE IS REPEATED OVER AND OVER.

A SALMON'S LIFE CYCLE USING CORRECT NAMES FOR EACH PHASE.

0205295

FISH

0205295001

CONSTRUCT AN AQUARIUM SYSTEM BY ESTABLISHING A TANK

CONTAINING WA

0205295002

DEMONSTRATE THAT TEMPERATURE OF WATER CHANGES LESS
MEASURE CHANGES IN AIR AND WATER DURING ENVIRONMENTAL

RAPIDLY THAN
TEMPERATURE C

0205295003

OBSERVE A FISH AND EXPLAIN HOW ITS STRUCTURE ADAPTS IT

TO ITS ENVIRO

0205295004

DESCRIBE ADAPTATIONS OF FISH FOR LIFE ACTIVITIES AS
BY OBSERVING FISH IN AN AQUARIUM AND BY READING

MOVEMENT, GET
REFERENCES.

0206295

FISH

0206295001

THE CHILD WILL CONSTRUCT A HYPOTHESIS ABOUT HOW LONG IT WILL TAKE FOR
STIMULUS.

BY ESTABLISHING A TANK CONTAINING WATER, SAND, PLANTS, AND FISH.
OF WATER CHANGES LESS RAPIDLY THAN TEMPERATURE OF AIR BY USING THERMOMETERS TO
WATER DURING ENVIRONMENTAL TEMPERATURE CHANGES.
HOW ITS STRUCTURE ADAPTS IT TO ITS ENVIRONMENT.
FOR LIFE ACTIVITIES AS MOVEMENT, GETTING FOOD, GETTING AIR, AND REPRODUCTION,
ARIUM AND BY READING REFERENCES.
HYPOTHESIS ABOUT HOW LONG IT WILL TAKE FOR THE FISH TO BE CONDITIONED TO THE NEW

0200300 FORCE AND MOTION

0200300001 KNOW THAT PUSHES AND/OR PULLS ARE FORCES.

0200300002 DEMONSTRATE THAT A PUSH OR PULL IS NEEDED TO MAKE THINGS MOVE, B

0200300003 NAME PUSHES AND PULLS AS FORCES.

0200300004 KNOW THAT A FORCE IS NEEDED TO STOP AN OBJECT THAT IS MOVING.

0200300005 KNOW THAT A FORCE IS NEEDED TO CHANGE THE DIRECTION OF A MOTION.

0200300006 DEMONSTRATE THAT A FORCE IS NEEDED TO CHANGE THE DIRECTION
OBSTACLES, CAUSING THEM TO BE DEFLECTED.

0200300007 KNOW THAT A PUSH OR PULL IS NEEDED TO MAKE THINGS MOVE, BY MOVING

0200300008 NAME THE FORCE THAT CAUSES FALLING THINGS TO FALL TOWARD

0200300009 KNOW THAT THE FORCE THAT CAUSES FALLING THINGS TO FALL TOWARD

0200300010 KNOW THAT AS THINGS ARE DROPPED THEY FALL TOWARD THE EARTH.

0200300011 DEMONSTRATE THAT AS THINGS ARE DROPPED THEY FALL TOWARD THE EARTH

0200300012 KNOW THAT GRAVITY MAKES THINGS GO FASTER AND FASTER.

0200300013 DEMONSTRATE THAT GRAVITY MAKES THINGS GO FASTER, BY ROLLING
POINTS ON BOARD, OR BY RAISING AND LOWERING BOARD MARKING

0200300014 KNOW THAT THE PULL THAT CAUSES FALLING THINGS TO FALL TOWARD

LS ARE FORCES.

PULL IS NEEDED TO MAKE THINGS MOVE, BY MOVING VARIOUS OBJECTS.

RCES.

TO STOP AN OBJECT THAT IS MOVING.

TO CHANGE THE DIRECTION OF A MOTION.

NEEDED TO CHANGE THE DIRECTION OF A MOTION, BY ROLLING OBJECTS AGAINST
BE DEFLECTED.

NEEDED TO MAKE THINGS MOVE, BY MOVING VARIOUS OBJECTS.

FALLING THINGS TO FALL TOWARD THE EARTH AS GRAVITY,

USES FALLING THINGS TO FALL TOWARD THE EARTH IS GRAVITY,

PPED THEY FALL TOWARD THE EARTH.

ARE DROPPED THEY FALL TOWARD THE EARTH.

INGS GO FASTER AND FASTER.

AKES THINGS GO FASTER, BY ROLLING OBJECTS DOWN SMOOTH BOARD, STARTING AT DIFFERENT
SING AND LOWERING BOARD MARKING WHERE OBJECTS STOP.

SES FALLING THINGS TO FALL TOWARD THE EARTH IS A FORCE.

0200300015 DESCRIBE THE PULL THAT CAUSES FALLING THINGS TO FALL TOWARD THE

0200300016 KNOW THAT IN ORDER TO LIFT AN OBJECT, THE NET FORCE MUST BE GREATER

0200300017 DESCRIBE THAT A FORCE IS NEEDED TO STOP AN OBJECT THAT IS MOVING,
BEEN MOVED WILL COME TO A STOP.

0200300018 KNOW THAT THE FORCE THAT STOPS MOVING OBJECTS IS FRICTION.

0200300019 DEMONSTRATE THAT FRICTION STOPS ROLLING AND SLIDING OBJECTS, BY
BOARD CAUSING SLIDING OBJECTS TO STOP MORE QUICKLY.

0200300020 KNOW THAT FRICTION STOPS ROLLING AND SLIDING OBJECTS.

0200300021 NAME THE FORCE THAT STOPS MOVING OBJECTS AS FRICTION.

0200300022 DEMONSTRATE THE FUNCTION OF A LEVER AND FULCRUM, BY USING A SIMP
DIRECTION OF FORCE BEING USED BY HIM.

0200300023 KNOW THAT IT IS EASIER TO LIFT SOMETHING WITH A LEVER OR SEESAW WHEN

0200300024 DEMONSTRATE THAT IT IS EASIER TO LIFT SOMETHING WITH A LEVER OR SEE

0200300025 DEMONSTRATE THAT LIFTING OBJECTS IS THE USING OF A FORCE IN THE DIREC
OBJECTS REQUIRE MORE FORCE TO LIFT THEM.

0200300026 KNOW THE FUNCTION OF A LEVER AND FULCRUM.

0200300027 KNOW THAT HEAVIER OBJECTS ARE THOSE THAT NEED MORE FORCE TO MOV

0200300028 DESCRIBE HEAVIER OBJECTS AS THOSE THAT NEED MORE FORCE TO MOVE THEM

FALLING THINGS TO FALL TOWARD THE EARTH AS A FORCE.

OBJECT, THE NET FORCE MUST BE GREATER THAN THE FORCE OF GRAVITY.

ED TO STOP AN OBJECT THAT IS MOVING, BY OBSERVING THAT ROLLING OBJECTS THAT HAVE

S MOVING OBJECTS IS FRICTION.

PS ROLLING AND SLIDING OBJECTS, BY ROLLING AND SLIDING DIFFERENT OBJECTS DOWN A
TO STOP MORE QUICKLY.

ING AND SLIDING OBJECTS.

ING OBJECTS AS FRICTION.

LEVER AND FULCRUM, BY USING A SIMPLE LEVER TO LIFT OBJECTS AND CHANGE THE
BY HIM.

T SOMETHING WITH A LEVER OR SEESAW WHEN THE LOAD IS ON THE SHORT END.

TO LIFT SOMETHING WITH A LEVER OR SEESAW WHEN THE LOAD IS ON THE SHORT END.

CTS IS THE USING OF A FORCE IN THE DIRECTION OPPOSITE TO GRAVITY, AND THAT HEAVIER
LIFT THEM.

AND FULCRUM.

THOSE THAT NEED MORE FORCE TO MOVE THEM.

HOSE THAT NEED MORE FORCE TO MOVE THEM.

0200300029 DESCRIBE THAT, IN ORDER TO LIFT AN OBJECT, THE NET FORCE MUST BE G

0201300 FORCE AND MOTION

0201300001 KNOW THAT THE UPWARD PUSH OF A RELEASED BALLOON IS CAUSED BY

0201300002 DEMONSTRATE A MODEL OF A ROCKET BY BLOWING UP A BALLOON AND LETTI

0201300003 DESCRIBE THAT THE UPWARD PUSH IS CAUSED BY THE AIR RUSHING D

0201300004 DEMONSTRATE FRICTION BY PULLING A ROLLER SKATE WITH A RUBBER BA
WHEN THE SKATE IS DRAGGED ON ITS SIDE THAN WHEN IT IS IS PULLED

0203300 FORCE AND MOTION

0203300001 GIVEN A 4 WHEELED CART AND RAMP, SHOW BY DEMONSTRATION WHICH WAY

0204300 FORCE AND MOTION

0204300001 DEMONSTRATE YOUR UNDERSTANDING OF THE TERM FORCE AND APPLY THE
A PULL IS EXERTED ON AN OBJECT.

0204300002 DESIGN A SIMPLE EXPERIMENT WHICH DEMONSTRATES THE APPLICATION
INERTIA).

0205300 FORCE AND MOTION

0205300001 KNOW THAT PRESSURE CAUSES MATTER TO MOVE.

TO LIFT AN OBJECT, THE NET FORCE MUST BE GREATER THAN THE FORCE OF GRAVITY.

THE UPWARD PUSH OF A RELEASED BALLOON IS CAUSED BY THE DOWNWARD RUSH OF AIR FROM THE BALLOON.

TO LAUNCH A ROCKET BY BLOWING UP A BALLOON AND LETTING IT GO, CAUSING THE BALLOON TO MOVE.

THE UPWARD PUSH IS CAUSED BY THE AIR RUSHING DOWNWARD FROM THE BALLOON.

STRETCHING A RUBBER BAND BY PULLING A ROLLER SKATE WITH A RUBBER BAND, CAUSING THE RUBBER BAND TO STRETCH MORE WHEN IT IS PULLED ON ITS WHEELS.

ON AN INCLINED RAMP, SHOW BY DEMONSTRATION WHICH WAY THE CART PULLS EASIEST---UP THE RAMP OR DOWN.

DEFINITION OF THE TERM FORCE AND APPLICATION OF THE TERM IN DESCRIBING SITUATIONS WHERE A PUSH OR PULL IS APPLIED TO AN OBJECT.

AN EXPERIMENT WHICH DEMONSTRATES THE APPLICATION OF NEWTON'S FIRST LAW OF MOTION (LAW OF INERTIA).

0205300002	KNOW THAT ENERGY MUST BE SUPPLIED TO DEVELOP A FORCE	SUFFICIENT
0205300003	THROUGH INVESTIGATION, DEDUCE THAT ENERGY IS NECESSARY TO SUPPLY IS AN UNBALANCED FORCE.	TO SUPPLY
0205300004	FROM OBSERVATION, REASON THAT ENERGY OF MOTION (AN TO CREATE THRUST.	UNBALANCED
0205300005	FROM OBSERVATION OF AN EXPERIMENT, RECOGNIZE PROOF WHICH SHOWS THAT (WEIGHT) AN EQUAL AMOUNT OF FORCE IS NEEDED.	
0205300006	DESCRIBE SPRING BALANCE AS A FORCE OF GRAVITATION METER AND READ	
0205300007	DEMONSTRATE FORCE OF GRAVITY EXERTS PULL ON OBJECT.	SUSPEND
0205300008	INFER THAT EVERY ACTION HAS AN OPPOSITE AND EQUAL	REACTION
0205300009	DEMONSTRATE PRINCIPLE THAT EVERY ACTION HAS AN EQUAL AND OPPOSITE	
0205300010	DESCRIBE ABOVE ACTION AS EXAMPLE OF NEWTON'S LAW OF	ACTION AND
0205300011	USE THE LAW OF ACTION AND REACTION BY RESPONDING TO	GIVEN QUANTITIES
0205300012	GAIN INSIGHT INTO INERTIA OF REST AND INERTIA OF MOTION	BY EXAMINING
0205300013	INFER THAT OBJECTS IN MOTION TEND TO MOVE IN A STRAIGHT LINE BUT SPACECRAFT INTO ORBIT AROUND THE EARTH.	
0205300014	KNOW THAT ENERGY MUST BE APPLIED TO PRODUCE AN	UNBALANCED
0205300015	MATCH WORDS AND PHRASES WITH THEIR DEFINITION PERTAINING TO MOTION	

TO DEVELOP A FORCE SUFFICIENT TO OVERCOME GRAVITATIONAL PULL.

ST ENERGY IS NECESSARY TO SUPPLY A FORCE THAT STARTS AN OBJECT MOVING. THIS

RGY OF MOTION (AN UNBALANCED FORCE) REACTS AGAINST THE GRAVITATIONAL PULL

, RECOGNIZE PROOF WHICH SHOWS THAT TO ACT AGAINST CERTAIN GRAVITATIONAL FORCE IS NEEDED.

E OF GRAVITATION METER AND READING FOR EACH OBJECT AS MEASURE OF PULL.

TS PULL ON OBJECT. SUSPEND OBJECTS FROM SPRING BALANCES. POINTER MOVES.

POSITE AND EQUAL REACTION.

ACTION HAS AN EQUAL AND OPPOSITE REACTION.

OF NEWTON'S LAW OF ACTION AND REACTION.

N BY RESPONDING TO GIVEN QUESTIONS.

AND INERTIA OF MOTION BY EXAMINING FAMILIAR OBJECTS.

TO MOVE IN A STRAIGHT LINE BUT THAT SOME FORCE (GRAVITATIONAL) PULLS A EARTH.

TO PRODUCE AN UNBALANCED FORCE, RESULTING IN MOTION OR CHANGE OF

R DEFINITION PERTAINING TO MOTION OR THE CHANGE IN MOTION.

- 0205300016 IDENTIFY ACCEPTABLE DEFINITIONS FOR THE TERMS FORCE, INERTIA, AND
- 0205300017 RECOGNIZE EXAMPLES OF INERTIA SHOWN IN EXPERIMENTS.
- 0205300018 USE THE LAW OF INERTIA IN AN EXPLANATION OF A SITUATION USING BOOKS
- 0205300019 KNOW THAT ALL OBJECTS ATTRACT ONE ANOTHER BY THE FORCE OF GRAVITATION
- 0205300020 KNOW THAT AN OBJECT AT REST REMAINS AT REST AND AN OBJECT IN MOTION REMAINS IN MOTION UNLESS AN UNBALANCED FORCE ACTS UPON IT.
- 0205300021 KNOW THAT MOTION IS A FORM OF CHANGE.
- 0205300022 IDENTIFY VARIABLES WHICH AFFECT THE SWING OF A PENDULUM AND TELL HOW THEY AFFECT IT.

0206300 FORCE AND MOTION

- 0206300001 GIVEN A SERIES OF EVERYDAY ACTIVITIES, RECOGNIZE THOSE WHICH ARE COMPLETED BY THE ACTION OF A FORCE.
- 0206300002 KNOW THAT WHEN EFFORT FORCE IS MULTIPLIED, DISTANCE IS LOST.
- 0206300003 KNOW THAT FRICTION INCREASES EFFORT THAT MUST BE APPLIED, AND THAT FRICTION DECREASES EFFORT.
- 0206300004 KNOW THAT FRICTION IS A FORCE THAT RESISTS MOTION.
- 0206300005 KNOW THAT THE AMOUNT OF FRICTION DEPENDS UPON THE KINDS OF SURFACES IN CONTACT.
- 0206300006 KNOW THAT THE LESS TWO SURFACES ARE IN CONTACT, THE LESS THE FRICTION.

DEFINITIONS FOR THE TERMS FORCE, INERTIA, AND WEIGHT.

INERTIA SHOWN IN EXPERIMENTS.

IN AN EXPLANATION OF A SITUATION USING BOOKS AND BICYCLES.

ATTRACT ONE ANOTHER BY THE FORCE OF GRAVITATION.

REST REMAINS AT REST AND AN OBJECT IN MOTION REMAINS IN MOTION UNLESS ACTED ON BY AN

FORM OF CHANGE.

WHICH AFFECT THE SWING OF A PENDULUM AND TELL HOW THE SWING IS AFFECTED BY THESE VARIABLES.

DAILY ACTIVITIES, RECOGNIZE THOSE WHICH ARE DEPENDENT UPON THE GRAVITATIONAL FORCE FOR ACTIVITY.

FORCE IS MULTIPLIED, DISTANCE IS LOST.

DECREASES EFFORT THAT MUST BE APPLIED, AND DECREASES SPEED (DISTANCE),

FORCE THAT RESISTS MOTION.

FRICTION DEPENDS UPON THE KINDS OF SURFACES THAT ARE IN CONTACT,

WHEN SURFACES ARE IN CONTACT, THE LESS THE FRICTION BETWEEN THEM.

0206300007 KNOW THAT FRICTION IS SOMETIMES USEFUL.

0206300008 KNOW THAT WORK IS DONE ONLY WHEN AN OBJECT IS MOVED THROUGH A

0206300009 STATE THE RULE FOR WORK WHICH IS MULTIPLYING THE FORCE NEEDED BY

0206300010 INFER RELATIONSHIPS AND DEVELOP AN EQUATION FOR WORK.

0206300011 KNOW THAT EVERY ACTION HAS AN EQUAL AND OPPOSITE REACTION.

0206300012 KNOW THAT ACTION-REACTION CAN BE USED TO CHANGE SPEED OR DIRECTION

0206300013 USING NEWTON'S FIRST LAW OF MOTION, PREDICT WHAT WILL HAPPEN TO C
APPLIED TO THE OBJECTS.

0206300014 PREDICT WHICH OF SEVERAL OBJECTS WILL ACCELERATE MORE WHEN GIVEN
DIRECTION OF THE FORCE APPLIED.

0206300015 RECOGNIZE FACTORS THAT WILL AFFECT THE INERTIA OF AN OBJECT IN A

0206300016 PREDICT HOW THE FOLLOWING FACTORS AFFECT THE MOVEMENT OF OBJECTS

OBJECT IS MOVED THROUGH A DISTANCE.
APPLYING THE FORCE NEEDED BY THE DISTANCE THE OBJECT IS MOVED.
DEFINITION FOR WORK.
AND OPPOSITE REACTION.
TO CHANGE SPEED OR DIRECTION OF MOTION.
PREDICT WHAT WILL HAPPEN TO OBJECTS MOVING OR AT REST WHEN SOME FORCE IS
ACCELERATE MORE WHEN GIVEN THE MASS OF THE OBJECTS AND THE SIZE AND
INERTIA OF AN OBJECT IN A GIVEN SITUATION.
AFFECT THE MOVEMENT OF OBJECTS FORCES, FRICTION, UNBALANCED FORCES.

0202305	FUELS	
0202305001	KNOW THAT OIL DROPS CAN SOAK INTO SANDSTONE.	
0202305002	DEMONSTRATE THAT OIL DROPS CAN SOAK INTO SANDSTONE, THUS DEVELOPING OF THE EARTH.	
0202305003	KNOW THAT THERE ARE THREE COMPONENT LEVELS OF AN OIL.	SUPPLY MODE
0202305004	IDENTIFY THREE COMPONENT LEVELS OF A MODEL OF AN OIL FILLED WITH MARBLES), ---WATER, OIL, AND GAS.	SUPPLY IN T
0202305005	CONSTRUCT A MODEL OF AN OIL SUPPLY IN THE EARTH, BY	MIXING OIL

AK INTO SANDSTONE.

CAN SOAK INTO SANDSTONE, THUS DEVELOPING A MODEL OF HOW OIL CAN BE HELD IN ROCK LAYERS

COMPONENT LEVELS OF AN OIL SUPPLY MODEL IN THE EARTH--WATER, OIL, AND GAS.

LEVELS OF A MODEL OF AN OIL SUPPLY IN THE EARTH, (BY MIXING OIL AND WATER INTO A JAR
WATER, OIL, AND GAS.

L SUPPLY IN THE EARTH, BY MIXING OIL AND WATER INTO A JAR FILLED WITH MARBLES.

0205310	GENETICS	
0205310001	STUDY AND RESEARCH THE PART THAT CHROMOSOMES PLAY IN	CHANGES I
0205310002	KNOW THAT THE PATTERN OF THE ORGANISM IS PASSED ALONG TO NEW CELLS	
	CONTENT.	
0205310003	CONCEPTUALIZE CHROMOSOME PAIRING BY MAKING AND	MANIPULAT
0206310	GENETICS	
0206310001	KNOW THAT THE CHARACTERISTICS OF A LIVING THING ARE LAID DOWN IN A	
0206310002	KNOW THAT INHERITED TRAITS INTERACT WITH THE	ENVIRONME
0206310003	KNOW THAT THE CELLS IN THE OFFSPRING OF ONLY ONE PARENT	WILL CARR
	CELL NUCLEUS) DETERMINES FOR THE TRAITS OF THE PARENT.	
0206310004	KNOW THAT A SEED PLANT IS THE PRODUCT OF A CELL CARRYING TRAITS FR	
0206310005	KNOW THAT THE DNA MOLECULE CARRIES IN ITS PARTS (GENES)	THE CODE
	ORGANISM.	
0206310006	KNOW THAT GENES CARRYING THE GENETIC CODE FOR A TRAIT	MAY BE EI
0206310007	KNOW THAT THE GENETIC CODE IS CARRIED BY A LARGE	MOLECULE
0206310008	KNOW THAT ORGANISMS CAN BE MAINTAINED GENETICALLY PURE	FOR A GIV
0206310009	KNOW THAT A PURE TRAIT CAN BE KEPT PURE BY MAKING SURE	THAT SEED
0206310010	KNOW THAT SELECTING OF TRAITS CAN BE CONTROLLED BY	SELECTIVE

THAT CHROMOSOMES PLAY IN CHANGES IN THE STRUCTURE OF LIVING THINGS.

ORGANISM IS PASSED ALONG TO NEW CELLS BY DUPLICATION OF CHROMOSOMES AND THEIR DNA

RING BY MAKING AND MANIPULATING MODELS.

S OF A LIVING THING ARE LAID DOWN IN A GENETIC CODE.

INTERACT WITH THE ENVIRONMENT.

FFSPRING OF ONLY ONE PARENT WILL CARRY IN ITS CHROMOSOMES (TINY BODIES WITHIN THE
THE TRAITS OF THE PARENT.

E PRODUCT OF A CELL CARRYING TRAITS FROM TWO PARENTS.

CARRIES IN ITS PARTS (GENES) THE CODE THAT DETERMINES THE INHERITED TRAITS OF AN

GENETIC CODE FOR A TRAIT MAY BE EITHER DOMINANT OR RECESSIVE.

S CARRIED BY A LARGE MOLECULE IN THE CHROMOSOME.

MAINTAINED GENETICALLY PURE FOR A GIVEN TRAIT.

E KEPT PURE BY MAKING SURE THAT SEEDS HAVE GENES FOR ONLY THE PURE TRAIT.

S CAN BE CONTROLLED BY SELECTIVE POLLINATION.

0206310011	KNOW THAT DOMINANT AND RECESSIVE TRAITS CAN BE SORTED	OUT BY
0206310012	KNOW THAT GENETIC TRAITS INTERACT IN MANY WAYS. THE	RESULT
	BLENDING.	
0206310013	KNOW THAT WHEN TWO DIFFERENT GENES AFFECTING THE SAME	TRAIT
	ORGANISM IS A HYBRID.	
0206310014	KNOW THAT THE VISIBLE APPEARANCE OF TRAITS MAY BE	ALTERED
0206310015	KNOW THAT THE GENETIC CODE CAN CHANGE.	
0206310016	KNOW THAT CHANGES IN THE GENETIC CODE PRODUCE CHANGES IN LIVING	
0206310017	KNOW THAT OFFSPRING OF A SINGLE PARENT HAVE THE PARENT'S GENETIC	
0206310018	KNOW THAT A MUTATION (A CHANGE IN THE GENE) IS PASSED	ALONG
0206310019	KNOW THAT IMPROVED PLANTS AND ANIMALS ARE THE PRODUCT OF SELECT	
0206310020	KNOW THAT OFFSPRING OF TWO PARENTS INHERIT GENES FROM	BOTH PARENTS
	DEPENDS ON THE INTERACTION OF THE GENETIC CODE FROM BOTH PARENTS	
0206310021	KNOW THAT DESIRABLE MUTATIONS MAY BE ESTABLISHED BY	CROSSING
0206310022	KNOW THAT DESIRABLE MUTATIONS IN ANIMALS MAY BE	ESTABLISHED

RECESSIVE TRAITS CAN BE SORTED OUT BY CROSSING.

GENES INTERACT IN MANY WAYS. THE RESULTING EFFECT MAY BE DOMINANCE, RECESSIVENESS, OR

DIFFERENT GENES AFFECTING THE SAME TRAIT ARE IN THE CHROMOSOME (FOR THE DNA MOLECULE), THE

APPEARANCE OF TRAITS MAY BE ALTERED, BUT THE TRAITS REMAIN UNCHANGED.

THE GENETIC CODE CAN CHANGE.

THE GENETIC CODE PRODUCE CHANGES IN LIVING THINGS.

NO SINGLE PARENT HAVE THE PARENT'S GENETIC CODE.

A CHANGE IN THE GENE IS PASSED ALONG IN THE GENETIC CODE.

PLANTS AND ANIMALS ARE THE PRODUCT OF SELECTIVE BREEDING FOR THE DESIRED TRAITS.

TWO PARENTS INHERIT GENES FROM BOTH PARENTS. AN INCREASE IN THE NUMBER OF MUTANTS
 COPIES OF THE GENETIC CODE FROM BOTH PARENTS.

CROSS-POLLINATION MAY BE ESTABLISHED BY CROSS-POLLINATION OF PLANTS HAVING THE DESIRED TRAITS.

CROSS-POLLINATION IN ANIMALS MAY BE ESTABLISHED BY SELECTIVE BREEDING.

0204315	GEOLOGY	
0204315001	KNOW THAT THE ENVIRONMENT IS IN CONSTANT CHANGE.	
0204315002	KNOW THAT THE EARTH'S SURFACE IS ALWAYS CHANGING.	
0204315003	UNDERSTAND HOW THE ENERGY OF MOVING WATER CHANGES THE	EARTH'S S
0204315004	KNOW HOW LAND WORN DOWN IN ONE PLACE IS BUILT UP IN	ANOTHER.
0204315005	KNOW HOW PRESSURES ON AND IN THE EARTH CAUSE MOUNTAINS	TO RISE.
0204315006	KNOW HOW THE PRESSURE OF SEDIMENT MAY CAUSE MOUNTAINS TO RISE.	
0204315007	EXPLAIN HOW THE WEIGHT OF SEDIMENT CAN HELP TO RAISE	MOUNTAINS
0204315008	KNOW THAT THE PRESSURE ON THE MOLTEN ROCK WITHIN THE	EARTH CAU
0204315009	KNOW HOW UNEQUAL EXPANSION AND CONTRACTION CAN BREAK	ROCKS.
0204315010	USING MARBLES SHOW HOW EXPANSION AND CONTRACTION WITH	HEAT AND
0204315011	SHOW HOW FREEZING WATER EXPANDS WITH ENOUGH FORCE TO	BREAK ROC
0204315012	KNOW THAT THE EXPANSION AND THE CONTRACTION OF ROCK, AND AND THE F	
0204315013	KNOW HOW THE EXPANSION OF FREEZING WATER BREAKS DOWN	ROCKS.
0204315014	GIVEN MODEL OR DIAGRAM OF THE EARTH, NAME EACH OF THE	THREE LAY
	GENERAL PROPERTIES OF EACH.	

IN CONSTANT CHANGE.

IS ALWAYS CHANGING.

MOVING WATER CHANGES THE EARTH'S SURFACE.

PLACE IS BUILT UP IN ANOTHER.

THE EARTH CAUSE MOUNTAINS TO RISE.

MENT MAY CAUSE MOUNTAINS TO RISE.

MENT CAN HELP TO RAISE MOUNTAINS.

MOLTEN ROCK WITHIN THE EARTH CAUSES THE CRUST TO RISE FORMING MOUNTAINS.

CONTRACTION CAN BREAK ROCKS.

ON AND CONTRACTION WITH HEAT AND COLD CAN BREAK DOWN ROCK.

S WITH ENOUGH FORCE TO BREAK ROCK, USING CAN, WATER AND BRICK.

E CONTRACTION OF ROCK, AND AND THE FORCE OF GROWING PLANTS, HELP BREAK DOWN ROCK.

ZING WATER BREAKS DOWN ROCKS.

EARTH, NAME EACH OF THE THREE LAYERS (CRUST, MANTLE, AND CORE) AND DESCRIBE

0204315015	KNOW WHY THE EARTH'S ROCKS DEEP BELOW THE CRUST CAN	FLOW UNDER
0204315016	GIVEN A DESCRIPTION OF HOW A ROCK WAS FORMED, TELL METAMORPHIC.	WHETHER THE
0205315	GEOLOGY	
0205315001	CONSTRUCT MODEL OF EARTH. FILL BALLOON WITH TOOTHPASTE	FORM MODEL
0205315002	IDENTIFY PARTS OF MODEL TO REPRESENT LAYERS OF EARTH AS	CRUST, MAN
0205315003	DEMONSTRATE HOW LAYERS OF SEDIMENT FORMED. MIX WATER, PARTICLES ACCUMULATE NEAR BOTTOM.	PEBBLES, G
0205315004	DESCRIBE THIS ACTIVITY AS A MODEL OF HOW LAYERS OF	SEDIMENT F
0205315005	KNOW THAT THE EARTH IS CONTINUALLY CHANGING.	
0205315006	LEARN ABOUT EARTH'S INTERIOR BY MAKING A DIAGRAMMATIC	MODEL.
0205315007	RELATE THE EARTH'S STRUCTURE TO A THREE DIMENSIONAL	MODEL.
0205315008	KNOW THAT HEAT AND PRESSURE GENERATED WITHIN THE EARTH	RESULT IN
0205315009	KNOW THAT BREAKING UP OF RADIOACTIVE ATOMS WITHIN THE PRESSURE.	EARTH RELE
0205315010	KNOW THAT PRESSURES ON AND WITHIN THE EARTH UPLIFT THE	EARTH'S CR
0205315011	RELATE INSIDE AND OUTSIDE PRESSURES TO MOUNTAIN	BUILDING.

DEEP BELOW THE CRUST CAN FLOW UNDER PRESSURE.

A ROCK WAS FORMED, TELL WHETHER THE ROCK IS IGNEOUS, SEDIMENTARY, OR

FILL BALLOON WITH TOOTHPASTE FORM MODELING CLAY AROUND BALLOON.

REPRESENT LAYERS OF EARTH AS CRUST, MANTLE, CORE.

SEDIMENT FORMED. MIX WATER, PEBBLES, GRAVEL, SAND AND ALLOW TO SETTLE HEAVY BOTTOM.

MODEL OF HOW LAYERS OF SEDIMENT FORM IN OCEANS.

INDUALLY CHANGING.

R BY MAKING A DIAGRAMMATIC MODEL.

E TO A THREE DIMENSIONAL MODEL.

GENERATED WITHIN THE EARTH RESULT IN CHANGES OF ITS SURFACE.

RADIOACTIVE ATOMS WITHIN THE EARTH RELEASES ENORMOUS HEAT, CREATING TREMENDOUS

WITHING THE EARTH UPLIFT THE EARTH'S CRUST.

RE ERIC S TO MOUNTAIN BUILDING.

0205315012	RELATE PRESSURES TO THE BENDING OF ROCK LAYERS.	
0205315013	DISCOVER THAT ROCKS MAY BE GROUPED BY THEIR ORIGIN.	
0205315014	KNOW THAT THE COMPOSITION OF THE EARTH'S ROCKS IS	DETERMINE
0205315015	KNOW THAT ROCKS MAY BE IDENTIFIED BY THEIR MINERAL	COMPOSITI
0205315016	MAKE A ROCK COLLECTION NAMEING AND CLASSIFYING EACH	ROCK.
0205315017	DEMONSTRATE THE HARDNESS OF VARIOUS MINERALS BY USING	A SCALE F
0205315018	CONSTRUCT A SCALE OF RELATIVE HARDNESS FROM SEVERAL	MINERALS.
0205315019	RELATE OIL DEPOSITS TO SEDIMENTATION IN ANCIENT TIMES.	
0205315020	DO INDEPENDENT RESEARCH ON HOW THE STORED ENERGY FROM	THE SUN IS
	PAST IMPORTANT TO THE PRESENT.	
0206315	GEOLOGY	
0206315001	KNOW THAT SUBSTANCES (MINERALS) IN THE EARTH'S CRUST	CAN BE AL

DING OF ROCK LAYERS.

GROUPED BY THEIR ORIGIN.

OF THE EARTH'S ROCKS IS

DETERMINED BY THE MANNER IN WHICH THEY WERE FORMED.

IDENTIFIED BY THEIR MINERAL

COMPOSITION.

ING AND CLASSIFYING EACH

ROCK.

VARIOUS MINERALS BY USING

A SCALE FOR MEASURING HARDNESS.

VE HARDNESS FROM SEVERAL

MINERALS.

MENTATION IN ANCIENT TIMES.

HOW THE STORED ENERGY FROM
THE SUN IS TRANSFORMED INTO COAL AND OIL, MAKING THE

THE SUN IS TRANSFORMED INTO COAL AND OIL, MAKING THE

ALS) IN THE EARTH'S CRUST

CAN BE ALTERED TO PRODUCE NEW MATERIALS.

0205320	HUMAN BODY (BEHAVIOR)	
0205320001	GIVEN A SIMPLE GRAPH ON WHICH A SERIES OF TEST SCORES BETWEEN TESTS.	HAS BEEN
0205320002	GIVEN LIST OF ORDINARY, EVERYDAY ACTS PERFORMED BY THOSE THAT ARE LEARNED AND THOSE THAT ARE UNLEARNED	ANIMALS (REFLEX)
0205320003	GIVEN SEVERAL WAYS OF IMPROVING A LEARNED BEHAVIOR, PROGRESS IN GIVEN PERIOD OF TIME, AND CHOOSE REASON WHY	RECOGNIZE YOUR CHOICE
0205320004	DEMONSTRATE DIFFERENCE (DISCRIMINATION) BETWEEN A STIMULUS AND A RESPONSE	
0205320005	DEMONSTRATE IN A GIVEN EXPERIMENT INVOLVING STIMULUS AND RESPONSE CONTROLLED AND THE ONES THAT ARE CHANGED.	
0205320006	RECOGNIZE FROM GROUPS OF WORDS OR NUMBERS ONE GROUP REASON WHY GROUP YOU SELECTED IS EASIEST TO REMEMBER.	WHICH WORDS
0205320007	GIVEN LIST OF THINGS WHICH ARE PRESENT IN A PLACE OF PREVENT LEARNING AND THOSE WHICH WILL PREVENT LEARNING.	STUDY, EXPERIMENT
0205320008	GIVEN AN EXPERIMENT ON PRACTICE AND MEMORIZATION, EXPERIMENT.	RECOGNIZE
0205320009	GIVEN A LIST OF VARIABLES THAT WERE CONTROLLED IN AN REASONS THEY WERE CONTROLLED.	EXPERIMENT
0205320010	EXPLAIN WAYS IN WHICH A GIVEN VARIABLE WAS CONTROLLED	IN AN EXPERIMENT
0205320011	EXPLAIN WAYS IN WHICH A GIVEN VARIABLE WAS CONTROLLED IN AN EXPERIMENT	
0205320012	EXPLAIN WHICH VARIABLES WERE CONTROLLED IN AN EXPERIMENT ON FORGETTING	
0205320013	GIVEN DESCRIPTION OF LEARNING SITUATION, RECOGNIZE LEARN AND THOSE VARIABLES THAT MIGHT BOTH HINDER YOU OR SLOW	THOSE VARIABLES DOWN YOUR
0205320014	GIVEN SEVERAL WAYS OF LEARNING, PREDICT WHICH YOU THINK THROUGH EXPERIMENTAL PROCEDURES.	WOULD LEARN

WHICH A SERIES OF TEST SCORES HAS BEEN PLOTTED, EXPLAIN THE REASONS THE SCORES CHANGED

EVERYDAY ACTS PERFORMED BY ANIMALS AND HUMAN BEINGS, RECOGNIZE DIFFERENCE BETWEEN
AND THOSE THAT ARE UNLEARNED (REFLEX).

IMPROVING A LEARNED BEHAVIOR, RECOGNIZE ONE WHICH WOULD HELP YOU SHOW THE MOST
OF TIME, AND CHOOSE REASON WHY YOUR CHOICE IS A GOOD ONE.

(DISCRIMINATE) BETWEEN A STIMULUS AND A RESPONSE IN A GIVEN SITUATION.

EXPERIMENT INVOLVING STIMULUS AND RESPONSE IN LIVING THINGS, THE VARIABLES THAT ARE
THAT ARE CHANGED.

WORDS OR NUMBERS ONE GROUP WHICH WOULD PROBABLY BE MOST EASILY MEMORIZED EXPLAIN
LECTED IS EASIEST TO REMEMBER.

WHICH ARE PRESENT IN A PLACE OF STUDY, EXPLAIN DIFFERENCE BETWEEN THOSE WHICH WILL NOT
WHICH WILL PREVENT LEARNING.

PRACTICE AND MEMORIZATION, RECOGNIZE THE VARIABLES THAT WERE CONTROLLED IN THE

THAT WERE CONTROLLED IN AN EXPERIMENT ON PRACTICE AND MEMORIZATION, EXPLAIN THE
LLED.

GIVEN VARIABLE WAS CONTROLLED IN AN EXPERIMENT ON PRACTICE AND MEMORIZATION.

GIVEN VARIABLE WAS CONTROLLED IN AN EXPERIMENT ON PRACTICE AND MEMORIZATION.

WERE CONTROLLED IN AN EXPERIMENT ON FORGETTING AND RELEARNING.

ARNING SITUATION, RECOGNIZE THOSE VARIABLES THAT MIGHT MAKE IT EASIER FOR YOU TO
S THAT MIGHT BOTHFR YOU OR SLOW DOWN YOUR RATE OF LEARNING.

ARNING, PREDICT WHICH YOU THINK WOULD LEAD TO BEST RESULTS AND TEST YOUR PREDICTION
CEDURES.

0205320015	GIVEN DIFFERENT FORMS OF GRAPHS SHOWING TEST SCORES, INTERPRET WHAT THE SCORES MEAN.	EXPLAIN W
0205320016	GIVEN DIFFERENT FORMS OF GRAPHS SHOWING TEST SCORES, INTERPRET WHAT THE SCORES MEAN.	EXPLAIN W
0206320	HUMAN BODY (BEHAVIOR)	
0206320001	KNOW THAT PAST EXPERIENCES PROVIDE INSIGHT INTO METHODS	OF SOLVING
0206320002	THE CHILD WILL DEMONSTRATE HOW INSIGHT DEVELOPS- AS HE MUCH WATER WILL BE DISPLACED.	TRIES TO
0206320003	KNOW THAT HABITS ARE LEARNED ACTS THAT HAVE BECOME	AUTOMATIC
0206320004	THE CHILD WILL CONSTRUCT A HYPOTHESIS, INDICATING DECREASE SMOOTHLY WITH PRACTICE.	WHETHER OF
0206320005	DEMONSTRATE IMPORTANCE OF REGULAR PRACTICE. COMPARE ANOTHER WHO HAS PRACTICED.	RESULTS OF
0206320006	THE CHILD WILL DEMONSTRATE THAT LEARNING CAN LEAD TO AN COMPLETE THE ACT TO DECREASE WITH PRACTICE.	AUTOMATIC
0206320007	KNOW THAT DEVELOPMENT OF A HABIT REQUIRES PRACTICE.	
0206320008	THE CHILD WILL DESCRIBE THAT REGULAR PRACTICE HELPS IN	FORMING A
0206320009	KNOW THAT LEARNING IS IMPROVED BY THE DEVELOPMENT OF	EFFICIENT
0206320010	KNOW THAT GOOD STUDY HABITS REQUIRE THE PROPER TOOLS,	EQUIPMENT
0206320011	KNOW THAT DEVELOPMENT OF A HABIT REQUIRES THE PROPER	CONDITIONS

HS SHOWING TEST SCORES, EXPLAIN WHICH FORMS CAN BE COMPARED MOST EASILY AND

HS SHOWING TEST SCORES, EXPLAIN WHICH FORMS CAN BE COMPARED MOST EASILY AND

PROVIDE INSIGHT INTO METHODS OF SOLVING A PROBLEM AND ACHIEVING A GOAL.

INSIGHT DEVELOPS- AS HE TRIES TO SOLVE A PROBLEM, USING A JAR- FOR DETERMINING HOW

ACTS THAT HAVE BECOME AUTOMATIC.

PROTHESIS, INDICATING WHETHER OR NOT THE TIME TO COMPLETE THE ACT WILL

ULAR PRACTICE COMPARE RESULTS OF WRITING NAME WITH OPPOSITE HAND AGAINST

AT LEARNING CAN LEAD TO AN AUTOMATIC ACT (TYING OF A BOW KNOT), CAUSING THE TIME TO

IT REQUIRES PRACTICE.

REGULAR PRACTICE HELPS IN FORMING A NEW HABIT.

BY THE DEVELOPMENT OF EFFICIENT HABITS OF STUDY.

QUIRE THE PROPER TOOLS, EQUIPMENT, AND SURROUNDINGS,

ERIC UIRES THE PROPER CONDITIONS AND SURROUNDINGS,

0206320012

INFER THAT DEVELOPMENT OF GOOD STUDY HABITS RESULTS IN MORE EFFIC

0206320013

THE CHILD WILL DESCRIBE THAT HE CANNOT PREVENT THIS REFLEX BY

PAGE 107

STUDY HABITS RESULTS IN MORE EFFICIENT LEARNING.
WE CANNOT PREVENT THIS REFLEX BY THINKING ABOUT IT.

0204325 HUMAN BODY (CIRCULATORY)
0204325001 USING THE TERMS ARTERIES, VEINS, CAPILLARIES, AND HEART, DESCRIBE HO

0205325 HUMAN BODY (CIRCULATORY)
0205325001 KNOW THAT THE CIRCULATORY SYSTEM WORKS IN CONJUNCTION WITH THE DI
THE CELLS WITH SUBSTANCES THEY NEED.

INS, CAPILLARIES, AND HEART, DESCRIBE HOW THE BLOOD TRAVELS IN THE BODY.

STEM WORKS IN CONJUNCTION WITH THE DIGESTIVE AND RESPIRATORY SYSTEMS TO PROVIDE
EY NEED.

0204335 HUMAN BODY (DIET)

0204335001 TELL WHY WE NEED NUTRIENTS AND HOW THEY DIFFER FROM WASTES.

0204335002 CONDUCT TESTS TO FIND OUT WHETHER A FOOD IS MAINLY CARBOHYDR

0204335003 CLASSIFY A FAMILIAR FOOD AS BELONGING TO ONE OF THE FOLLOWING
VEGETABLE-FRUIT.

0204335004 FROM LIST OF FOODS, IDENTIFY BEST SOURCES OF PROTEIN, CARBOHYDR

0204335005 EXPLAIN WHETHER FOOD EATEN IN ONE DAY BY A CHILD IS A BALANCED

0204335006 PLAN A WELL-BALANCED DIET FOR A DAY.

0205335 HUMAN BODY (DIET)

0205335001 KNOW THAT CERTAIN DISEASES ARE AVOIDED OR CURED BY ADEQUATE

0205335002 INFER THE IMPORTANCE OF HAVING A BALANCED DIET EVERY DAY.

0205335003 REALIZE THE NEED FOR FOODS RICH IN CERTAIN SUBSTANCES.

0205335004 INFER THE NUTRITIONAL VALUES OF FOOD SUBSTANCES IN MILK.

0205335005 MAKE A POSTER SHOWING VITAMINS AND THEIR SOURCES.

0206335 HUMAN BODY (DIET)

0206335001 MATCH ESSENTIAL NUTRIENT WITH THE FOOD WHICH CAN PROVIDE MAJOR AMO

HOW THEY DIFFER FROM WASTES.

WHETHER A FOOD IS MAINLY CARBOHYDRATE, FAT, OR PROTEIN.

LONGING TO ONE OF THE FOLLOWING FOOD GROUPS MILK, MEAT, BREAD-CEREAL, OR

BEST SOURCES OF PROTEIN, CARBOHYDRATE, AND FAT.

ONE DAY BY A CHILD IS A BALANCED DIET. IF NOT, TELL WHAT IS MISSING.

A DAY.

AVOIDED OR CURED BY ADEQUATE AMOUNTS OF VITAMINS.

A BALANCED DIET EVERY DAY.

H IN CERTAIN SUBSTANCES.

F FOOD SUBSTANCES IN MILK.

AND THEIR SOURCES.

THE FOOD WHICH CAN PROVIDE MAJOR AMOUNT OF THAT NUTRIENT.

0206335002

KNOW THAT HARMFUL BACTERIA IN MILK ARE DESTROYED BY

PASTEURIZ

PAGE 110

ESTROYED BY PASTEURIZATION.

0204340 HUMAN BODY (DIGESTIVE)

0204340001 ON DRAWING OF DIGESTIVE SYSTEM, IDENTIFY MOUTH, TEETH, TONGUE

0205340 HUMAN BODY (DIGESTIVE)

0205340001 KNOW THAT DIGESTION BEGINS AS FOOD IS BROKEN INTO SMALLER

0205340002 KNOW THAT OUR DIGESTIVE ORGANS MAKE OUR FOOD READY TO MOVE TH

0205340003 KNOW THAT THE ORGANS OF THE DIGESTIVE SYSTEM WORK TOGETHE

0205340004 DESCRIBE THAT SUBSTANCE IN SALIVA IS RESPONSIBLE FOR CHANGIN

0205340005 COMPLETE AN INVESTIGATION USING BENEDICTS SOLUTION TO SHOW HO

0205340006 DEMONSTRATE HOW STARCH IS CHANGED TO SUGAR. TEST AND SHOW AE
SOLUTION, SALIVA, PRESENCE IN STARCH AND SALIVA SOLUTION (SET FO

0205340007 REPORT WRITTEN OR ORALLY WHAT HAPPENS TO FOOD IN THE MOUTH,

0206340 HUMAN BODY (DIGESTIVE)

0206340001 DEMONSTRATE ACTION OF ENZYME MIX STARCH IN TWO TUBES, ADD DIA
ONE TURNS YELLOW-ORANGE.

0206340002 DEMONSTRATE ACTION OF BACTERIA IN STOMACH-USING FOOD- GELATIN
ONE, WATER TO OTHER, DETERMINE GROWTH.

1. IDENTIFY MOUTH, TEETH, TONGUE, FOOD PIPE, STOMACH, AND INTESTINE.

2. FOOD IS BROKEN INTO SMALLER PARTICLES.

3. HOW DO WE MAKE OUR FOOD READY TO MOVE THROUGH MEMBRANES.

4. HOW DO DIGESTIVE SYSTEM WORK TOGETHER.

5. HOW DOES SALIVA IS RESPONSIBLE FOR CHANGING STARCH TO SUGAR.

6. HOW DO WE USE BENEDICT'S SOLUTION TO SHOW HOW SALIVA BREAKS DOWN STARCH.

7. HOW DO WE TEST FOR SUGAR. TEST AND SHOW ABSENCE OF SUGAR WITH BENEDICT'S SOLUTION IN STARCH AND SALIVA SOLUTION (SET FOR 10 MINUTES).

8. WHAT HAPPENS TO FOOD IN THE MOUTH, STOMACH, AND INTESTINES.

9. HOW DO WE MIX STARCH IN TWO TUBES, ADD DIASTASE TO ONE, TEST BOTH WITH BENEDICT'S SOLUTION,

10. HOW DO WE TEST FOR GELATIN IN STOMACH- USING FOOD- GELATIN. ADD TEN DROPS OF WEAK HYDROCHLORIC ACID TO THE GROWTH.

0206345	HUMAN BODY (DISEASE)	
0206345001	KNOW THAT CERTAIN CELLS SECRETE SUBSTANCES THAT PROVIDE	AN E
0206345002	INVESTIGATE THE FUNCTION OF EPITHELIAL CELLS THAT LINE	THE
0206345003	KNOW THAT ANTIBIOTICS CHANGE THE ENVIRONMENT OF CERTAIN SURVIVAL.	TYPE
0206345004	KNOW THAT THE FAVORABLE ENVIRONMENT FOR A VIRUS IS	WITH
0206345005	KNOW THAT ONLY ANTIBODIES GIVE IMMUNITY.	
0206345006	THE CHILD WILL DESCRIBE THAT HIS STOMACH CELLS MAKE A THIS COULD HELP REDUCE THE GROWTH OF BACTERIA.	JUICE
0206345007	THE CHILD WILL DESCRIBE THAT ANTISEPTICS REDUCE THE	GROW
0206345008	DEMONSTRATE PURIFYING WATER WITH CHEMICALS BY OBSERVING BLEACH TO THE SLIDE, KILLING THE ORGANISMS.	MICRO
0206345009	IDENTIFY SOURCES OF INFORMATION TO ANSWER FOUR QUESTIONS ABOUT	
0206345010	GIVEN SENTENCE DESCRIBING SOME ACTIVITIES OF A HARMFUL TO MAN.	MICRO
0206345011	KNOW THAT THE BODY, BY REFLEX ACTS, EXPELS BACTERIA AND	OTHER
0206345012	KNOW THAT THE WHITE BLOOD CELLS ARE ONE OF THE BODY'S	DEFEN
0206345013	NAME BODY'S LINES OF DEFENSE WHICH HELP IN RESISTING	AND/C
0206345014	FIND THAT MOST GERMS DO NOT GROW WHEN AN ANTISEPTIC IS	USED

THE SUBSTANCES THAT PROVIDE AN ENVIRONMENT UNFAVORABLE TO BACTERIA.

EPITHELIAL CELLS THAT LINE THE BODY CAVITIES.

THE ENVIRONMENT OF CERTAIN TYPES OF MICROORGANISMS, MAKING IT UNFAVORABLE TO THEIR

ENVIRONMENT FOR A VIRUS IS WITHIN THE BODY CELLS.

THE IMMUNITY.

THE STOMACH CELLS MAKE A JUICE WHICH CONTAINS WEAK HYDROCHLORIC ACID, AND THAT
GROWTH OF BACTERIA.

ANTISEPTICS REDUCE THE GROWTH OF BACTERIA.

WITH CHEMICALS BY OBSERVING MICROORGANISMS WITH A MICROSCOPE, WHILE ADDING CHLORINE
TO THE ORGANISMS.

ON TO ANSWER FOUR QUESTIONS ABOUT KEEPING WATER AND FOOD FREE FROM BACTERIA.

THE ACTIVITIES OF A MICROORGANISM, TELL WHETHER ACTIVITIES ARE HELPFUL OR

ACTS, EXPELS BACTERIA AND OTHER IRRITANTS.

THESE ARE ONE OF THE BODY'S DEFENSES AGAINST INFECTION.

THESE WHICH HELP IN RESISTING AND/OR COMBATING DISEASE-CAUSING MICROORGANISMS,

HOW WHEN AN ANTISEPTIC IS USED.

0206345015	DEMONSTRATE ANTISPETICS USING FOOD-GELATIN, ADD DROPS OF DIFFERE WATER TO ONE AS A CONTROL, EXPOSED DISHES AND DETERMINE GROWTH.	
0206345016	KNOW THAT SOME DISEASES C USE THE BODY TO BUILD	IMMUNIT
0206345017	TELL DIFFERENCE BETWEEN STRUCTURES AND FUNCTIONS OF FOUR GENERAL FUNGUS, BACTERIA AND PROTOZOA.	
0206345018	GIVEN EXAMPLES OF COMMON (HOUSEHOLD OR PROFESSIONAL) ANTIBIOTICS ARE BEING USED TO COMBAT INFECTIOUS	MEDICAL BACTERI
0206345019	DESCRIBE HOW WATER AND FOOD ARE KEPT FREE FROM BACTERIA.	
0206345020	WHEN GIVEN LIST OF SCIENTISTS (LOUIS PASTEUR, EDWARD ROBERT KOCH) AND THEIR SCIENTIFIC DISCOVERIES, MATCH	JENNER, EACH SC
0206345021	TELL DIFFERENCE BETWEEN DEFINITIONS OF FOLLOWING TYPES	OF DISE
0206345022	GIVEN DESCRIPTION OF A PARTICULAR DISEASE AND THE WAY IT IS CONT NONCOMMUNICABLE.	
0206345023	IDENTIFY WAYS IN WHICH SPECIFIC DISEASE CAUSING ENTRY WITH AIR AND THROUGH SKIN).	ORGANISM
0206345024	IDENTIFY THE MOST EFFECTIVE METHODS USED TO PREVENT THE	SPREAD

ING FOOD-GELATIN, ADD DROPS OF DIFFERENT ANTISEPTICS TO DIFFERENT DISHES AND BOILED
EXPOSED DISHES AND DETERMINE GROWTH.

USE THE BODY TO BUILD IMMUNITY.

STRUCTURES AND FUNCTIONS OF FOUR GENERAL GROUPS OF DISEASE-CAUSING MICROORGANISMS, VIRUS,
ZOA.

HOUSEHOLD OR PROFESSIONAL) MEDICAL PRACTICES, TELL WHETHER CHEMICALS, HEAT, OR
TO COMBAT INFECTIOUS BACTERIA.

AND ARE KEPT FREE FROM BACTERIA.

ISTS (LOUIS PASTEUR, EDWARD JENNER, JOSEPH LISTER, JONAS SALK, ALEXANDER FLEMING,
SCIENTIFIC DISCOVERIES, MATCH EACH SCIENTIST WITH HIS DISCOVERY.

DEFINITIONS OF FOLLOWING TYPES OF DISEASES ORGANIC, ALLERGIC, INFECTIOUS, DEFICIENCY.

SPECIFIC DISEASE AND THE WAY IT IS CONTRACTED, CLASSIFY DISEASE AS COMMUNICABLE OR

SPECIFIC DISEASE CAUSING ORGANISMS ENTER THE BODY (ENTRY WITH WATER, MILK, FOOD
SKIN).

THE METHODS USED TO PREVENT THE SPREAD OF DISEASE.

0201350

HUMAN BODY (EAR)

0201350001

IDENTIFY THE FUNCTION OF THE EAR.

0203350

HUMAN BODY (EAR)

0203350001

IDENTIFY THESE PARTS OF THE EAR AND TELL WHAT THEY DO. OUTER EAR,
DRUM, HAMMER, ANVIL, COCHLEA, AND NERVE.

AR.

AND TELL WHAT THEY DO. OUTER EAR, MIDDLE EAR, INNER EAR, PINNA, EAR CANAL, EAR
AND NERVE.

0204355

HUMAN BODY (EXERCISE)

0204355001

SUGGEST SCHEDULE OF EXERCISES FOR ADULT TO DO TO REMAIN HEALTHY.

0201360

HUMAN BODY (EYE)

0201360001

IDENTIFY THE FUNCTION OF THE EYE.

0203360

HUMAN BODY (EYE)

0203360001

IDENTIFY THESE PARTS OF THE EYE AND TELL WHAT THEY DO. EYELID,

PAGE 116

TELL WHAT THEY DO. EYELID, EYELASHES, IRIS, PUPIL, AND TEAR DUCT.

0202365

HUMAN BODY (GROWTH)

0202365001

DESCRIBE GROWTH CHANGES, SINCE LAST YEAR, BY USING

GROWTH

0202365002

DEMONSTRATE HEIGHT AND WEIGHT, BY USING A TAPE MEASURE

AND SC

LAST YEAR, BY USING GROWTH AND WEIGHT MEASUREMENTS.

BY USING A TAPE MEASURE AND SCALE.

0206370

HUMAN BODY (HEALTH CONDITIONS)

0206370001

FROM LIST OF STATEMENTS, IDENTIFY THOSE WHICH DESCRIBE HEALTH C
STORY ABOUT HEALTH PROBLEMS IN UNDERDEVELOPED NATION.

PAGE 118

TIFY THOSE WHICH DESCRIBE HEALTH CONDITIONS IN AN UNDERDEVELOPED NATION. TELL A
N UNDERDEVELOPED NATION.

0206375

HUMAN BODY (HEALTH AND SAFETY)

0206375001

LIST SEVEN EXAMPLES OF GOOD HEALTH AND SAFETY
RESPONSIBLE FOR EACH ITEM LISTED.

PRECAUTIONS

ETYI

PAGE 119

D HEALTH AND SAFETY
LISTED.

PRECAUTIONS AND EXPLAIN WHY YOU SHOULD OR SHOULD NOT BE

0200380

HUMAN BODY (LIFE ACTIVITIES)

0200380001

KNOW THAT HUMAN LIFE ACTIVITIES ARE COMMON WITH ALL

LIVING THINGS

0200380002

DESCRIBE HIS OWN LIFE ACTIVITIES, IN COMMON WITH ALL
HIS OWN ACTIVITIES WITH OTHER LIVING THINGS STUDIED.

LIVING THINGS
ES
L

S ARE COMMON WITH ALL LIVING THINGS.

ES, IN COMMON WITH ALL LIVING THINGS, BY OBSERVING BABY PICTURES AND COMPARING LIVING THINGS STUDIED.

0204385

HUMAN BODY (MUSCULAR)

0204385001

EXPLAIN HOW OPPOSING MUSCLES IN MAN (INCLUDING THOSE OF ARM AND

PAGE 121

LES IN MAN (INCLUDING THOSE OF ARM AND LEG) WORK TO CAUSE MOVEMENT OF BODY PARTS;

0205390

HUMAN BODY (NERVOUS)

0205390001

KNOW THAT THE NERVOUS SYSTEM SERVES TO COORDINATE THE SYSTEMS OF THE

0206390

HUMAN BODY (NERVOUS)

0206390001

IDENTIFY THE LOCATIONS AND FUNCTIONS OF MAJOR PARTS OF CENTRAL NERVOUS
MEDULLA) AND SPINAL CORD.

PAGE 122

S TO COORDINATE THE SYSTEMS OF THE BODY.

NS OF MAJOR PARTS OF CENTRAL NERVOUS SYSTEM BRAIN (CEREBELLUM, CEREBRUM,

0201395

HUMAN BODY (NOSE)

0201395001

IDENTIFY THE FUNCTION OF THE NOSE.

0204400

HUMAN BODY (POSTURE)

0204400001

NAME TWO HEALTH REASONS FOR GOOD POSTURE AND TELL IF A PERSON IS S
AND SITTING.

PAGE 124

GOOD POSTURE AND TELL IF A PERSON IS SHOWING PROPER POSTURE IN STANDING, WALKING,

0206405

HUMAN BODY (REFLEX)

0206405001

DEMONSTRATE A REFLEX ACTION BY HOLDING Cellophane in
A BALL OF PAPER GENTLY AGAINST IT.

FRONT OF

0206405002

DEMONSTRATE A SIMPLE REFLEX, BY SITTING WITH LEGS
BELOW THE KNEE WITH THE EDGE OF THE PALM.

HANGING L

ION BY HOLDING CELLOPHANE IN
AGAINST IT.

FRONT OF HIS EYES AND ALLOWING ANOTHER STUDENT TO THROW

LEX, BY SITTING WITH LEGS
EDGE OF THE PALM.

HANGING LOOSELY, ALLOWING ANOTHER CHILD TO TAP HIM JUST

0204410	HUMAN BODY (RESPIRATORY)	
0204410001	DESCRIBE NORMAL FLOW OF AIR IN AND OUT OF HUMAN PASSAGE, AND WINDPIPE.	RESPIRATOR
0205410	HUMAN BODY (RESPIRATORY)	
0205410001	THROUGH OBSERVATION, INFER THAT RATES OF BREATHING MAY	DIFFER.
0205410002	KNOW THAT THE AMOUNT OF AIR THAT CAN BE INHALED IS	DETERMINED
0205410003	READ A CHART TO DETERMINE DIFFERENCES IN INHALED AND	EXHALED AIR
0205410004	DISTINGUISH RATE OF BREATHING FROM OTHERS. COMPARE	RATES.
0205410005	DESCRIBE RATE OF BREATHING. COUNT NUMBER OF TIMES HE	INHALES IN
0205410006	CONSTRUCT TABLE OF BREATHING RATES. INDICATE NUMBER OF	CHILDREN AND
0205410007	DEVISE AN INVESTIGATION TO HELP ANSWER THE FOLLOWING	QUESTION
0205410008	DEVISE AN INVESTIGATION TO HELP ANSWER THE FOLLOWING	QUESTION
0205410009	DEVISE AN INVESTIGATION TO HELP ANSWER THE FOLLOWING RATE OF BREATHING	QUESTION
0205410010	KNOW THAT ALTHOUGH THE AMOUNT OF OXYGEN IN FRESH AIR LESS.	REMAINS ABOUT
0205410011	KNOW THAT THE ORGANS OF THE RESPIRATORY SYSTEM ARE SO CONTINUOUS SUPPLY OF OXYGEN.	STRUCTURED

AND OUT OF HUMAN RESPIRATORY SYSTEM, USING THE TERMS LUNGS, NOSE, NASAL

RATES OF BREATHING MAY DIFFER.

AT CAN BE INHALED IS DETERMINED BY THE EXPANSION OF THE LUNGS.

ERENCES IN INHALED AND EXHALED AIR.

FROM OTHERS. COMPARE RATES.

OUNT NUMBER OF TIMES HE INHALES IN ONE MINUTE.

ATES. INDICATE NUMBER OF CHILDREN AND DIFFERENT RATES.

P ANSWER THE FOLLOWING QUESTION DOES EVERYONE INHALE AT THE SAME RATE

P ANSWER THE FOLLOWING QUESTION DOES EXERCISE AFFECT BREATHING RATE

P ANSWER THE FOLLOWING QUESTION CAN YOU DETERMINE AN AVERAGE OR NORM IN THE

OF OXYGEN IN FRESH AIR REMAINS ABOUT THE SAME, THE AMOUNT IN EXHALED AIR IS

SPIRATORY SYSTEM ARE SO STRUCTURED THAT THEY PROVIDE THE BODY CELLS WITH A

0204415 HUMAN BODY (SKFLETAL)

0204415001 IN DRAWING, IDENTIFY SKULL, BACKBONE, RIBS, SHOULDER BLADE, U
THIGHBONE, KNFECAP, SHINBCNE, HEEL BONE, TOE AND FINGER BONES.

0205415 HUMAN BODY (SKELETAL)

0205415001 KNOW THAT THE SKELETAL AND MUSCULAR SYSTEMS PROVIDE THE BODY SUPP

0206415 HUMAN BODY (SKELETAL)

0206415001 IN DIAGRAM OF HUMAN SKELETON, LOCATE SKULI, RIB CAGE, BACKBONE,
PHALANGES.

0206415002 GIVEN DIAGRAM OF SKELETON, LOCATE FOUR KINDS OF JOINTS. HINGE, BA

BACKBONE, RIBS, SHOULDER BLADE, UPPER ARM BONE, LOWER ARM BONES, HIPBONE,
HEEL BONE, TOE AND FINGER BONES.

SCULAR SYSTEMS PROVIDE THE BODY SUPPORT AND PROTECTION AND ENABLE IT TO MOVE ABOUT

LOCATE SKULL, RIB CAGE, BACKBONE, PELVIS, FEMUR, TIBIA, FIBULA, RADIUS, ULNA,

NAME FOUR KINDS OF JOINTS. HINGE, BALL-AND-SOCKET, IMMOVABLE, AND PIVOT JOINTS,

0204420 HUMAN BODY (SKIN, HAIR, TEETH, NAILS)

0204420001 DESCRIBE HOW TO TAKE PROPER CARE OF SKIN, TEETH, HAIR, AND NAILS
GOOD HEALTH.

0206420 HUMAN BODY (SKIN, HAIR, TEETH, NAILS)

0206420001 INVESTIGATE THE PROTECTIVE FUNCTIONS OF THE EPITHELIAL CELLS

TEETH, NAILS)

PROPER CARE OF SKIN, TEETH, HAIR, AND NAILS. NAME TWO REASONS WHY THIS IS IMPORTANT FOR

TEETH, NAILS)

THE FUNCTIONS OF THE EPITHELIAL CELLS THAT COVER OUTER BODY SURFACES.

0204425 HUMAN BODY (SYSTEMS)

0204425001 IN A DRAWING OF HUMAN BODY, FIND AND NAME FIVE SYSTEMS OF THE BODY

0204425002 MATCH HUMAN BODY SYSTEMS (SKELETAL, MUSCULAR, DIGESTIVE, CIRCULATORY)

0205425 HUMAN BODY (SYSTEMS)

0205425001 VISUALIZE THE BODY AS MORE THAN A MASS OF CELLS---RATHER AS AN ORGANISM

0205425002 KNOW THAT THE ORGAN SYSTEMS WORK TOGETHER IN PERFORMING THE BODY'S FUNCTIONS

0205425003 KNOW THAT THE EXCRETORY SYSTEM ENABLES THE OTHER SYSTEMS TO MAINTAIN CELL OXIDATION.

0206425 HUMAN BODY (SYSTEMS)

0206425001 MATCH SYSTEMS OF HUMAN BODY (DIGESTIVE, CIRCULATORY, RESPIRATORY, SKELETAL, MUSCULAR, AND SKIN) WITH IMPORTANT GENERAL FUNCTIONS

FIND AND NAME FIVE SYSTEMS OF THE BODY.

KELETAL, MUSCULAR, DIGESTIVE, CIRCULATORY, AND RESPIRATORY) TO THEIR MAJOR FUNCTIONS.

THAN A MASS OF CELLS---RATHER AS AN ORGANIZED STRUCTURE.

WORK TOGETHER IN PERFORMING THE BODY'S FUNCTIONS.

TEM ENABLES THE OTHER SYSTEMS TO MAINTAIN A BALANCE BY REMOVING UNDESIRABLE WATES OF

(DIGESTIVE, CIRCULATORY,
N) WITH IMPORTANT GENERAL

RESPIRATORY, NERVOUS, REPRODUCTIVE, GLAND, EXCRETORY,
FUNCTIONS OF EACH.

0205430

HUMAN BODY (TEMPERATURE)

0205430001

CONSTRUCT A TABLE OF TEMPERATURE READINGS COLLECTED,
OUTDOORS AND INDOORS.

INDICATING

0205430002

DEMONSTRATE BODY'S ADAPTATION FOR STEADY TEMPERATURE BY
A WEEK SHOWING THAT BODY TEMPERATURE VARIES LITTLE

MEASURING
COMPARED

0205430003

OBSERVE, INVESTIGATE, AND ANALYZE THE IMPORTANCE OF AN

EVEN BODY

READINGS COLLECTED, INDICATING DAY OF READING AND AIR AND BODY TEMPERATURES
OR STEADY TEMPERATURE BY MEASURING BODY AND AIR TEMPERATURES, IN- AND OUTDOOR FO
ATURE VARIES LITTLE COMPARED TO AIR TEMPERATURE.
ZE THE IMPORTANCE OF AN EVEN BODY TEMPERATURE.

0201435

HUMAN BODY (TONGUE)

0201435001

IDENTIFY THE FUNCTIONS OF THE TONGUE.

0206440 HUMAN BODY (WATER)

0206440001 KNOW THAT BACTERIA MAY BE CHEMICALLY REMOVED FROM WATER TO MAKE

0206440002 KNOW THAT MANY HARMFUL BACTERIA AND UNDESIRABLE SOLIDS ARE REM

ICALLY REMOVED FROM WATER TO MAKE IT SUITABLE FOR DRINKING.

AND UNDESIRABLE SOLIDS ARE REMOVED FROM WATER BY FILTRATION.

0200445	INSECTS	
0200445001	KNOW THAT A MOTH IS ONE KIND OF INSECT, AND THAT ALL SKELETON.	INSECTS H
0200445002	DESCRIBE THAT A MOTH IS ONE KIND OF INSECT, AND THAT ALL SKELETON.	INSECTS H
0200445003	KNOW THAT THE CATERPILLAR HATCHED FROM TINY EGGS	PRODUCED
0200445004	DESCRIBE HOW THE CATERPILLAR HATCHED FROM TINY EGGS	PRODUCED
0200445005	DESCRIBE THE LIFE CYCLE OF A MOTH, BY OBSERVING LIVE CHANGE INTO ADULTS.	CATERPILL
0200445006	KNOW THE LIFE CYCLE OF A MOTH.	
0203445	INSECTS	
0203445001	RECOGNIZE WHEN A PICTURE OF AN INSECT IS IN AN ADULT, THEY OCCUR.	EGG, LARVA
0204445	INSECTS	
0204445001	RECOGNIZE THE BODY PARTS OF AN INSECT YOU CHOOSE TO	STUDY.
0206445	INSECTS	
0206445001	DEMONSTRATE COLLECTION OF FRUIT FLIES IN WARM SEASON. COTTON OR CLOTH.	ATTRACT W
0206445002	DESCRIBE DIFFERENT CHARACTERISTICS OF FRUIT FLIES. USE	MAGNIFYING

ND OF INSECT, AND THAT ALL INSECTS HAVE SIX LEGS, USUALLY WINGS, AND AN OUTSIDE
 E KIND OF INSECT, AND THAT ALL INSECTS HAVE SIX LEGS, USUALLY WINGS, AND AN OUTSIDE
 HATCHED FROM TINY EGGS PRODUCED BY THE ADULT MOTH.
 AR HATCHED FROM TINY EGGS PRODUCED BY THE ADULT MOTH.
 A MOTH, BY OBSERVING LIVE CATERPILLARS AS THEY MOVE, FEED, SPIN COCOONS, AND
 OTH.

F AN INSECT IS IN AN ADULT, EGG, LARVA OR PUPA STAGE. RECOGNIZE THE ORDER IN WHICH
 OF AN INSECT YOU CHOOSE TO STUDY.

FRUIT FLIES IN WARM SEASON. ATTRACT WITH RAW OR COOKED FRUIT IN JAR, CLOSE JAR WITH
 ERISTICS OF FRUIT FLIES. USE MAGNIFYING GLASS.

0200450	INTERDEPENDENCE	
0200450001	KNOW THE VARIETY OF PLANT AND ANIMAL MATERIALS IN THE	SAME ENVI
0200450002	KNOW THAT PLANTS AND ANIMALS SHARE A COMMON ENVIRONMENT	FROM WHICH
	GROW.	
0200450003	KNOW PLANT-ANIMAL RELATIONSHIPS AND THEIR	DEPENDENCE
0200450004	DESCRIBE HOW PLANTS AND ANIMALS SHARE A COMMON	ENVIRONME
	LIVE AND GROW.	
0200450005	DEMONSTRATE THE VARIETY OF PLANT AND ANIMAL MATERIALS IN THE SAME	
	NEIGHBORHOOD AREA.	
0200450006	DESCRIBE PLANT-ANIMAL RELATIONSHIPS AND THEIR DEPENDENCE ON MAN, BY	
0204450	INTERDEPENDENCE	
0204450001	KNOW HOW LIVING THINGS DEPEND ON OTHER LIVING THINGS	FOR THEIR
	GREEN PLANTS.	
0204450002	KNOW THE INHERITED CHARACTERISTICS OF A LIVING THING	CAN DEVELOP
	GROWING PLANT OR ANIMAL CAN INTERCHANGE MATTER AND	ENERGY WITH
0204450003	INFER OR DEMONSTRATE WAYS IN WHICH PLANTS AND ANIMALS	MAY BE INT
	GREEN PLANTS OR THEIR PRODUCTS FOR FOOD.	
0205450	INTERDEPENDENCE	
0205450001	KNOW THAT ANIMALS ARE DEPENDENT ON THE OXYGEN GREEN	PLANTS GIV
0205450002	GAIN INSIGHT INTO THE INTERDEPENDENCE OF ORGANISMS AND	THEIR ENVI
0205450003	KNOW THAT LIVING THINGS OBTAIN FROM ONE ANOTHER AND FROM THE ENVIRO	
	GROWTH AND ACTIVITY.	

MATERIALS IN THE SAME ENVIRONMENT.

COMMON ENVIRONMENT FROM WHICH THEY GET THE THINGS THEY NEED TO LIVE AND
THEIR DEPENDENCE ON MAN.

A COMMON ENVIRONMENT FROM WHICH THEY GET THE THINGS THEY NEED TO

ANIMAL MATERIALS IN THE SAME ENVIRONMENT, BY COLLECTING MATERIALS FROM THE
AND THEIR DEPENDENCE ON MAN, BY VISITING AND OBSERVING LIFE ON A FARM.

ER LIVING THINGS FOR THEIR FOOD, IN FOOD CHAINS THAT IN THE END DEPEND ON

A LIVING THING CAN DEVELOP ONLY IN THE KIND OF ENVIRONMENT IN WHICH THE
MATTER AND ENERGY WITH THE ENVIRONMENT.

PLANTS AND ANIMALS MAY BE INTERDEPENDENT. NONGREEN PLANTS ARE DEPENDENT ON
FOOD.

THE OXYGEN GREEN PLANTS GIVE OFF DURING PHOTOSYNTHESIS.

OF ORGANISMS AND THEIR ENVIRONMENTS.

FROM EACH OTHER AND FROM THE ENVIRONMENT THE MATTER AND ENERGY THEY NEED FOR

0205450004	REALIZE THAT ANIMALS AND PLANTS IN A SEALED ENVIRONMENT CYCLE IS ESSENTIAL IN THEIR ENVIRONMENT.	DEPEND UP	AN
0205450005	CONSTRUCT A SEALED-IN MODEL USING FISH AND PLANT LIFE ABLE TO RELATE THIS MODEL TO THE SEALED-IN ENVIRONMENT	TO SHOW T	OF THE EA
0205450006	KNOW THAT INTERDEPENDENCE OF LIVING THINGS WITH THEIR IN A CHEMICAL CHANGE.	ENVIRONME	F
0205450007	KNOW THAT WAYS OF LIFE TODAY ARE RELATED TO THE ENVIRONMENT.	INTERDEPE	Y
0205450008	REASON FROM PRIOR WORK THAT ANIMAL FIBERS ARE DEPENDENT	ON EARLIE	

0206450 INTERDEPENDENCE

0206450001	KNOW THAT LIVING THINGS ARE INTERDEPENDENT.		
0206450002	KNOW THAT LIVING THINGS ARE INTERDEPENDENT WITH ONE	ANOTHER A	
0206450003	KNOW THAT IN ATTEMPTS TO UNDERSTAND THE WORLD IN WHICH THAT LIVING THINGS ARE INTERDEPENDENT WITH ONE ANOTHER	HE LIVES,	AND THE E

ANTS IN A SEALED ENVIRONMENT DEPEND UPON ONE ANOTHER. THE OXYGEN-CARBON-DIOXIDE ENVIRONMENT.

USING FISH AND PLANT LIFE TO SHOW THE INTERDEPENDENCE OF ALL LIVING THINGS, BEING TO THE SEALED-IN ENVIRONMENT OF THE EARTH.

F LIVING THINGS WITH THEIR ENVIRONMENT IS RELATED TO THE TRANSFORMATION OF MATTER

Y ARE RELATED TO THE INTERDEPENDENCE OF ORGANISMS THAT LIVED IN AN ANCIENT

ANIMAL FIBERS ARE DEPENDENT ON EARLIER CAPTURE OF ENERGY BY GREEN PLANTS.

INTERDEPENDENT.

INTERDEPENDENT WITH ONE ANOTHER AND WITH THEIR ENVIRONMENT.

DERSTAND THE WORLD IN WHICH HE LIVES, MAN HAS DEVELOPED THE LARGE CONCEPTUAL SCHEME DEPENDENT WITH ONE ANOTHER AND THE ENVIRONMENT.

0202455 LIGHT

0202455001 KNOW THAT A BEAM OF SUNLIGHT PASSED THROUGH A PRISM (OR DISC) OF THE SPECTRUM.

0202455002 DEMONSTRATE THAT A BEAM OF SUNLIGHT PASSES THROUGH A PRISM (OR DISC) OF THE SPECTRUM.

0202455003 KNOW THAT LIGHT TRAVELS IN A STRAIGHT LINE AND IS REFLECTED BY A MIRROR, CAUSING THE LIGHT SPOT TO BE OBSERVED IN ANOTHER DIRECTION.

0202455004 DEMONSTRATE THAT LIGHT TRAVELS IN A STRAIGHT LINE AND IS REFLECTED BY A MIRROR, CAUSING THE LIGHT SPOT TO BE OBSERVED IN ANOTHER DIRECTION.

0202455005 KNOW THAT AN IMAGE IS REFLECTED IN THE MIRROR, AND APPEARS TO BE BEHIND THE MIRROR.

0202455006 DEMONSTRATE THAT AN IMAGE IS REFLECTED IN THE MIRROR, AND APPEARS TO BE BEHIND THE MIRROR, BY USING MIRROR AND YARDSTICK FOR MEASUREMENT.

0202455007 KNOW THAT DIFFERENT AMOUNTS OF LIGHT PASS THROUGH DIFFERENT MATERIALS.

0202455008 DEMONSTRATE THAT DIFFERENT AMOUNTS OF LIGHT PASS THROUGH DIFFERENT MATERIALS. TRANSPARENT, TRANSLUCENT, AND OPAQUE MATERIALS.

0203455 LIGHT

0203455001 GIVEN A SERIES OF PICTURES OF OBJECTS OR ACTUAL OBJECTS, RECOGNIZE THEM.

0204455 LIGHT

0204455001 KNOW THAT LIGHT AND SOUND ARE DIFFERENT FORMS OF ENERGY.

0204455002 DEMONSTRATE HOW WE KNOW THAT LIGHT IS A FORM OF ENERGY.

0204455003 KNOW THAT THE LIGHT ENERGY OF A CANDLE COMES FROM PARAFFIN.

PASSED THROUGH A PRISM (OR DIFFRACTION GRATING), AND IS SEPARATED INTO COLORS

WHITE LIGHT PASSES THROUGH A PRISM (OR DIFFRACTION GRATING), AND IS SEPARATED INTO

A STRAIGHT LINE AND IS REFLECTED WHEN A FLASHLIGHT BEAM IS DIRECTED AT A
 IT TO BE OBSERVED IN ANOTHER DIRECTION.

IT IS IN A STRAIGHT LINE AND IS REFLECTED WHEN A FLASHLIGHT BEAM IS DIRECTED AT A
 IT TO BE OBSERVED IN ANOTHER DIRECTION.

REFLECTED IN THE MIRROR, AND APPEARS AS FAR INTO THE MIRROR AS THE PERSON IS IN

REFLECTED IN THE MIRROR, AND APPEARS AS FAR INTO THE MIRROR AS THE STUDENT IS IN
 MIRROR AND YARDSTICK FOR MEASURING.

IF LIGHT PASSES THROUGH DIFFERENT MATERIALS.

QUANTITIES OF LIGHT PASS THROUGH DIFFERENT MATERIALS, BY USING A WIDE VARIETY OF
 OPAQUE MATERIALS.

OBJECTS OR ACTUAL OBJECTS, RECOGNIZE IF THE OBJECT PRODUCES OR REFLECTS LIGHT.

DIFFERENT FORMS OF ENERGY.

LIGHT IS A FORM OF ENERGY.

A CANDLE COMES FROM PARAFFIN.

0204455004 KNOW THAT LIGHT ENERGY MAY BE RELEASED BY A CHEMICAL . CHAN

0204455005- KNOW THAT CHEMICAL ENERGY CAN BECOME LIGHT ENERGY.

0204455006 KNOW THAT THE LIGHT ENERGY OF A CANDLE IS PRODUCED BY CHEM

0204455007 KNOW THAT LIGHT TRAVELS THROUGH SPACE.

0204455008 KNOW THAT OBJECTS BECOME VISIBLE AS LIGHT IS REFLECTED FROM

0204455009 KNOW THAT LIGHT MUST REACH THE EYE TO BE SEEN.

0204455010 DEMONSTRATE THAT LIGHT TRAVELS IN A STRAIGHT LINE.

0204455011 OBSERVE THE BEHAVIOR OF LIGHT.

0204455012 KNOW THAT LIGHT ENERGY BEHAVES SOMETIMES AS WAVES, AND SOME

0204455013 KNOW THAT LIGHT CAN BE POLARIZED BY CERTAIN MATERIALS.

0204455014 KNOW THAT LIGHT MAY BE BENT AS IT PASSES THROUGH CERTAIN MATE

0204455015 DEMONSTRATE THAT LIGHT MAY BE BENT (REFRACTED) AS IT . ENTE

0204455016 DEMONSTRATE HOW LIGHT CAN BE ABSORBED AND REFLECTED.

0204455017 DEMONSTRATE THAT LIGHT BOUNCES, BY USING A LIGHT SOURCE, MIRR
AMOUNTS OF LIGHT TO REFLECT ONTO A DARKENED OBJECT.

MAY BE RELEASED BY A CHEMICAL CHANGE.

BY CAN BECOME LIGHT ENERGY.

RGY OF A CANDLE IS PRODUCED BY CHEMICAL CHANGE.

THROUGH SPACE.

E VISIBLE AS LIGHT IS REFLECTED FROM THEM TO THE EYE.

ACH THE EYE TO BE SEEN.

TRAVELS IN A STRAIGHT LINE.

LIGHT.

BEHAVES SOMETIMES AS WAVES, AND SOMETIMES AS PARTICLES.

POLARIZED BY CERTAIN MATERIALS.

BENT AS IT PASSES THROUGH CERTAIN MATERIALS.

MAY BE BENT (REFRACTED) AS IT ENTERS OR LEAVES WATER.

CAN BE ABSORBED AND REFLECTED.

BOUNCES, BY USING A LIGHT SOURCE, MIRROR, WHITE PAPER, AND BLACK PAPER, CAUSING VARYING
LECT ONTO A DARKENED OBJECT.

0204455018 DESIGN EXPERIMENT TO SHOW WHETHER SUBSTANCES OR OBJECTS WITH DIFF
ABSORB MOST OF THE LIGHT WHICH FALLS ON THEM.

0204455019 DESCRIBE THE BEHAVIOR OF LIGHT IN TERMS OF REFLECTION OF BRIGHT

0204455020 DEMONSTRATE THAT LIGHT CAN BE REFLECTED, ABSORBED, DIFFUSED,

0204455021 DEMONSTRATE THAT THE BEHAVIOR OF POLARIZED LIGHT IS EXPLAINED

0204455022 DEMONSTRATE THAT LIGHT PASSES THROUGH ONE PIECE OF POLARIZED
WHEN TWO PIECES ARE USED AND ONE IS TURNED.

0204455023 CONSTRUCT A DRAWING OF LIGHT RAYS PASSING THROUGH A LENS TO THE FOC
TO A POINT.

0204455024 DESCRIBE THE LENS AS FOCUSING THE LIGHT WHEN IT BRINGS LIGHT TO A

0204455025 DEMONSTRATE THAT LIGHT RAYS BEND, BY CAUSING SUNLIGHT TO PASS THROU
IT MAY BE HOT ENOUGH TO BURN PAPER.

0205455 LIGHT

0205455001 DISCOVER HOW MIRRORS COLLECT LIGHT.

0205455002 KNOW THAT A TELESCOPE MIRROR SERVES TO COLLECT LIGHT.

0205455003 KNOW THAT LIGHT COLLECTED BY A CURVED MIRROR CAN BE BROUGHT TO

0205455004 KNOW THAT LENSES AND PRISMS CAN CHANGE THE DIRECTION OF LIGHT.

0205455005 DEMONSTRATE THAT LIGHT WILL BOUNCE AT AN ANGLE OR STRAIGHT
DIFFERENT ANGLES ONTO A MIRROR.

HER SUBSTANCES OR OBJECTS WITH DIFFERENT SURFACE TEXTURES AND COLORS REFLECT OR FALLS ON THEM.

IN TERMS OF REFLECTION OF BRIGHT SURFACES AND ITS ABSORPTION BY DARK SURFACES.

REFLECTED, ABSORBED, DIFFUSED, AND BENT.

OF POLARIZED LIGHT IS EXPLAINED BY A WAVE MODEL.

THROUGH ONE PIECE OF POLARIZED PLASTIC, BUT ALTERNATELY STOPS AND PASSES ONE IS TURNED.

AYS PASSING THROUGH A LENS TO THE PAPER, ILLUSTRATING THAT THE RAYS BEND AND FOCUS THE LIGHT WHEN IT BRINGS LIGHT TO A POINT.

ND, BY CAUSING SUNLIGHT TO PASS THROUGH A CONVEX LENS AND FORM A SMALL SPOT WHERE PAPER.

IGHT.

SERVES TO COLLECT LIGHT.

A CURVED MIRROR CAN BE BROUGHT TO A FOCUS AND MAGNIFIED BY A LENS.

AN CHANGE THE DIRECTION OF LIGHT.

OUT AN ANGLE OR

STRAIGHT BACK TO THE SOURCE, BY SHINING A FLASHLIGHT AT

0205455006 MAKE A WORKABLE MODEL OF A PERISCOPE.

0205455007 KNOW THAT LIGHT TRAVELS IN STRAIGHT LINES. IT CAN BE BROKE
PRISM.

0205455008 DO AN INVESTIGATION WITH A PRISM TO SHOW THAT WHITE LIGHT
THAT THE SPECTRUM HAS A SET PATTERN.

0205455009 NAME THE COLOR OF THE BANDS AS RED, ORANGE, YELLOW, GREEN

0205455010 DEMONSTRATE THAT BANDS OF COLORED LIGHT ARE FORMED AS SUNLI

0205455011 KNOW THAT LIGHT CAN BE REFLECTED BY MIRRORS.

0205455012 DISCOVER THAT LIGHT MOVES IN A STRAIGHT LINE.

0205455013 DEMONSTRATE USING A LONG TUBE THAT LIGHT TRAVELS IN A STRAI

0205455014 KNOW THAT PARTS OF THE LIGHT SPECTRUM ARE INVISIBLE THEIR

0205455015 UNDERSTAND THE SHORTNESS OF WAVELENGTHS OF LIGHT.

0205455016 WRITE OR DISCUSS THIS TOPIC, 'THE WAVE THEORY OF LIGHT,' THIS
WAVE LENGTHS.

0205455017 KNOW THAT THE BEHAVIOR OF LIGHT MAY BE EXPLAINED AS THE MOTION

0205455018 INFER THAT THE NUMBER OF WAVES IS RELATED TO THE LENGTH OF THE

0205455019 KNOW THAT LIGHT BEHAVES AT TIMES AS PARTICLES, AND AT TIMES

A PERISCOPE.

IN STRAIGHT LINES. IT CAN BE BROKEN INTO A SPECTRUM OF COLORS AS IT PASSES THROUGH A
A PRISM TO SHOW THAT WHITE LIGHT IS MADE OF MANY DIFFERENT COLORS OF LIGHT, AND
SET PATTERN.
ANDS AS RED, ORANGE, YELLOW, GREEN, BLUE, AND VIOLET, AND THE TOTAL PATTERN SPECTRUM
OF COLORED LIGHT ARE FORMED AS SUNLIGHT PASSES THROUGH A GLASS PRISM.
REFLECTED BY MIRRORS.

IS IN A STRAIGHT LINE.

IS TUBE THAT LIGHT TRAVELS IN A STRAIGHT LINE.
LIGHT SPECTRUM ARE INVISIBLE THEIR EXISTENCE CAN BE INFERRED FROM THEIR EFFECTS.

OF WAVELENGTHS OF LIGHT.

TOPIC, 'THE WAVE THEORY OF LIGHT,' THIS SHOULD INCLUDE THE KNOWLEDGE OF COLORS RELATED TO
OF LIGHT MAY BE EXPLAINED AS THE MOTION OF WAVES THROUGH SPACE.

OF WAVES IS RELATED TO THE LENGTH OF THE WAVE.

AT TIMES AS PARTICLES, AND AT TIMES AS WAVES.

- 0205455020 EXAMINE AN EXAMPLE OF LIGHT BEHAVING AS PARTICLES RATHER THAN AS
- 0205455021 WRITE OR DISCUSS THIS TOPIC, 'THE PARTICLE THEORY OF LIGHT.'
- 0205455022 RELATE WAVELENGTH TO THE COLOR SPECTRUM.
- 0205455023 COMPARE THE TWO THEORIES OF LIGHT AND BECOME AWARE THAT MORE EVIDENCE
- 0205455024 GIVEN TWO PIECES OF EVIDENCE, A AND B, DECIDE WHICH THEORY OF
- 0205455025 KNOW THAT THE LIGHT FROM THE STARS ENABLES US TO DETERMINE
- 0205455026 DEDUCE THAT DIFFERENT ELEMENTS PRODUCE DIFFERENT FLAME COLORS.
- 0205455027 INFER THAT LIGHT FROM THE STARS WAS EMITTED AT SOME TIME IN THE PAST
- 0205455028 KNOW THAT DISTANCES IN SPACE CAN BE MEASURED ACCURATELY BY USING
- 0205455029 DESCRIBE THAT LIGHT WAVES OR RADIO WAVES CAN BE USED TO MEASURE DISTANCES BY TAKING REFLECTIONS TO BOUNCE WAVES OFF A DISTANT OBJECT.
- 0205455030 FIGURE WHAT A LIGHT YEAR IS USING MATH CONCEPTS.
- 0205455031 RECOGNIZE IN MULTIPLE CHOICE SITUATION THE SPEED OF LIGHT.
- 0205455032 OBSERVE OR PERFORM AN INVESTIGATION OF A FLAME SHOWING COLORS PRODUCE
- 0205455033 DEMONSTRATE FLAME TEST FOR IDENTIFYING CHEMICAL SUBSTANCES BY OBSERVING AN OPEN FLAME CAUSING DIFFERENT COLORS TO BE FORMED AS THEY BURN.

...ING AS PARTICLES RATHER THAN AS WAVES (ELECTRICAL ENERGY).

...E PARTICLE THEORY OF LIGHT.

...PECTRUM.

...T AND BECOME AWARE THAT MORE EVIDENCE IS NEEDED.

...AND B, DECIDE WHICH THEORY OF LIGHT BEST EXPLAINS EACH.

...RS ENABLES US TO DETERMINE THEIR COMPOSITION AND THEIR TEMPERATURE.

...PRODUCE DIFFERENT FLAME COLORS.

...WAS EMITTED AT SOME TIME IN THE PAST.

...BE MEASURED ACCURATELY BY USING THE SPEED OF LIGHT AS A YARDSTICK.

...IO WAVES CAN BE USED TO MEASURE DISTANCES IN SPACE, BY MEASURING THE TIME IT
...TANT OBJECT.

...G MATH CONCEPTS.

...UATION THE SPEED OF LIGHT.

...TION OF A FLAME SHOWING COLORS PRODUCED WHEN DIFFERENT SUBSTANCES ARE PRESENT.

...TIFYING CHEMICAL SUBSTANCES BY HOLDING DIFFERENT CHEMICAL POWDERS IN AN
...LORS TO BE FORMED AS THEY BURN.

0206455

LIGHT

0206455001

RECOGNIZE WHICH ONE OF THE THREE MOST COMMON THEORIES ABOUT THE WAY LIGHT TRAVELS.

ABOUT THE

0206455002

TELL HOW LIGHT AND THE PARTS OF YOUR EYE INTERACT TO

PRODUCE

0206455003

WHEN YOU ARE GIVEN INFORMATION ABOUT THE ROUGHNESS OR REFLECT LIGHT IN A SCATTERED WAY AND WHICH WILL REFLECT

SMOOTHNESS ABOUT IT IN A

0206455004

RECOGNIZE WHETHER SUBSTANCES OR OBJECTS WITH DIFFERENT LIGHT WHICH FALLS ON THEM OR WILL ABSORB IT.

SURFACE

0206455005

TELL WHETHER OBJECTS ARE TRANSPARENT, TRANSLUCENT, OR

OPAQUE.

0206455006

PREDICT ANGLE AT WHICH LIGHT WILL BE REFLECTED FROM A THAT SURFACE.

SURFACE

0206455007

RECOGNIZE DIAGRAMS THAT CORRECTLY ILLUSTRATE HOW WHITE CONCAVE AND CONVEX LENSES, (2) THROUGH PRISMS, AND (3)

LIGHT IS THROUGH

0206455008

PREDICT THE KINDS OF IMAGES THAT WILL BE MADE BY CONVEX

LENSES AND

THE MOST COMMON THEORIES ABOUT THE NATURE OF LIGHT IS DEMONSTRATED IN EXAMPLES OF
 HOW YOUR EYE INTERACT TO PRODUCE AN IMAGE.
 ABOUT THE ROUGHNESS OR SMOOTHNESS OF SOME OBJECTS, RECOGNIZE WHICH ONES WILL
 AND WHICH WILL REFLECT IT IN A REGULAR WAY.
 OBJECTS WITH DIFFERENT SURFACE TEXTURES AND COLORS WILL REFLECT MOST OF THE
 ALL ABSORB IT.
 TRANSPARENT, TRANSLUCENT, OR OPAQUE.
 WILL BE REFLECTED FROM A SURFACE WHEN GIVEN THE ANGLE AT WHICH THAT LIGHT STRIKE
 WILL ILLUSTRATE HOW WHITE LIGHT IS BENT (REFRACTED) AS IT PASSES (1) THROUGH
 THROUGH PRISMS, AND (3) THROUGH WATER.
 WILL BE MADE BY CONVEX LENSES AND THE TYPES MADE BY CONCAVE LENSES.

0202460

MACHINES

0202460001

AFTER LEARNING WHAT MACHINES DO FOR THEM, DRAMATIZE WHAT THE OR FO

0206460

MACHINES

0206460001

KNOW THAT THE AMOUNT OF ENERGY GOTTEN OUT OF A MACHINE DOES NO 601

0206460002

KNOW THAT MACHINES MAY MULTIPLY FORCE, INCREASE SPEED, OR CHAN FO

0206460003

VERIFY THE CONCEPT BY INVESTIGATING A DIFFERENT MACHINE. TIM

FOR THEM, DRAMATIZE WHAT THE WORLD WOULD BE LIKE WITHOUT A PARTICULAR MACHINE.

GOTTEN OUT OF A MACHINE DOES NOT EXCEED THE ENERGY PUT INTO IT.

FORCE, INCREASE SPEED, OR CHANGE DIRECTION.

TING A DIFFERENT MACHINE.

0204465 MACHINES (COMPLEX)

• 0204465001 DISASSEMBLE A COMPLEX MACHINE AND IDENTIFY AT LEAST TWO OF THE

0204465002 DISASSEMBLE A COMPLEX MACHINE AND DESCRIBE ORALLY AT LEAST TWO

0205465 MACHINES (COMPLEX)

0205465001 COMPARE POWER MACHINES WITH MANUAL MACHINES TO SHOW ADVANTAGES

0206465 MACHINES (COMPOUND)

0206465001 KNOW THAT MOST COMPOUND MACHINES ARE MODIFICATIONS OR COMBINATIONS

0206465002 KNOW THAT COMPOUND MACHINES MULTIPLY THE FORCES OF THE SIMPLE

0206465003 KNOW THAT BOTH PHYSICAL AND CHEMICAL CHANGES OCCUR IN STEAM AND

0206465004 KNOW THAT INTERNAL COMBUSTION ENGINES TRANSFER THE FORCE OF

NAME AND IDENTIFY AT LEAST TWO OF THE SIMPLE MACHINES INVOLVED.

NAME AND DESCRIBE ORALLY AT LEAST TWO OF THE SIMPLE MACHINES INVOLVED.

WITH MANUAL MACHINES TO SHOW ADVANTAGES OR DISADVANTAGES OF EACH.

MACHINES ARE MODIFICATIONS OR COMBINATIONS OF A FEW SIMPLE MACHINES.

THEY MULTIPLY THE FORCES OF THE SIMPLE MACHINES OF WHICH THEY CONSIST.

AND CHEMICAL CHANGES OCCUR IN STEAM AND INTERNAL COMBUSTION ENGINES.

INTERNAL COMBUSTION ENGINES TRANSFER THE FORCE OF KINETIC ENERGY DIRECTLY TO MACHINES.

0201470 MACHINES (SIMPLE)

0201470001 CHOOSE FIVE MACHINES FROM GROUP OF FIFTEEN OBJECTS,

0201470002 WITH SIMPLE MACHINE, GIVE DEMONSTRATION. SHOW HOW TASK CAN BE MADE

0201470003 LEARN SIX SIMPLE MACHINES. IDENTIFY BY LISTING FOUR IN SCHOOL ENVIRONMENT

0201470004 USING SIMPLE MATERIALS (SPOOLS, ROPE), MAKE A PULLEY SYSTEM WHICH

0202470 MACHINES (SIMPLE)

0202470001 IDENTIFY PULLEY SYSTEMS IN EVERYDAY OBJECTS.

0202470002 PREDICT WHETHER AN OBJECT WITH A PULLEY WILL MOVE MORE OR LESS EASILY. COMPLETE AN EXPERIMENT TO SEE IF YOU WERE RIGHT.

0202470003 PREDICT WHICH DIRECTION THE PULLEY CORD SHOULD BE PULLED IN ORDER TO COMPLETE AN EXPERIMENT TO SEE IF YOU WERE RIGHT.

0202470004 PREDICT WHETHER AN OBJECT ON ROLLERS OR WHEELS WILL MOVE MORE OR LESS EASILY. COMPLETE EXPERIMENT TO SEE IF YOU WERE RIGHT.

0202470005 IDENTIFY GEARS ON AN OBJECT.

0202470006 IDENTIFY THE FASTER GEAR ON AN OBJECT WITH TWO GEARS.

0203470 MACHINES (SIMPLE)

0203470001 IDENTIFY DEFINITIONS OF A SIMPLE MACHINE.

0203470002 TELL THE BENEFITS OF SIMPLE MACHINES.

FIFTEEN OBJECTS.

ATION. SHOW HOW TASK CAN BE MADE EASIER WITH MACHINE.

IFY BY LISTING FOUR IN SCHOOL ENVIRONMENT.

PE), MAKE A PULLEY SYSTEM WHICH WORK.

Y OBJECTS.

PULLEY WILL MOVE MORE OR LESS EASILY THAN AN OBJECT WITHOUT A PULLEY.
YOU WERE RIGHT.

CORD SHOULD BE PULLED IN ORDER TO MAKE THE OBJECT MOVE UP OR DOWN, COMPLETE
RIGHT.

RS OR WHEELS WILL MOVE MORE OR LESS EASILY THAN AN OBJECT WHICH IS NOT.
WERE RIGHT.

JECT WITH TWO GEARS.

MACHINE.

0203470003 RECOGNIZE WHICH TYPE OF SIMPLE MACHINE (INCLINED PLANE, WEDGE, LEVER) IM

0203470004 RECOGNIZE WHICH TYPE OF SIMPLE MACHINE (PULLEY, SCREW, OR WHEEL) IM

0203470005 DESCRIBE THE SIMPLE MACHINES YOU HAVE OBSERVED IN YOUR OWN HOME. NE

0204470 MACHINES (SIMPLE)

0204470001 WHEN GIVEN THREE SIMPLE MACHINES, IDENTIFY AND DESCRIBE THE OPERATION. AC

0204470002 DESIGN A SIMPLE TOOL WHICH WILL HELP YOU PERFORM A TASK AT SCHOOL. H

0205470 MACHINE (SIMPLE)

0205470001 COMBINING SEVERAL OF THE SIX SIMPLE MACHINES (INCLINED PLANE, SCREW, WEDGE, PULLEY, WHEEL, OR GEAR) DESIGN AND BUILD A WORKING MODEL. SI
IG

0206470 MACHINES (SIMPLE)

0206470001 KNOW THAT A SIMPLE MACHINE MULTIPLIES EFFORT BUT DOES NOT INCREASE THE DISTANCE. NE

0206470002 KNOW THAT A SCREW IS A WINDING INCLINED PLANE. IN

0206470003 DEMONSTRATE IT IS EASIER TURNING A SCREW INTO WOOD THAN PUSHING IT INTO WOOD BY ATTEMPTING TO PUSH IT THE REST OF THE WAY. TU
I

0206470004 CONSTRUCT A WINDING INCLINED PLANE. CUT INCLINED PLANE 12 INCHES LONG. IT WILL RISE 1/2 INCH PER TURN AND TAKE 11 TURNS. NI
RI

IMPLE MACHINE (INCLINED PLANE, WEDGE, LEVER) IS BEING USED IN A GIVEN SITUATION.

IMPLE MACHINE (PULLEY, SCREW, OR WHEEL) IS BEING USED IN A GIVEN SITUATION.

NES YOU HAVE OBSERVED IN YOUR OWN HOME.

MACHINES, IDENTIFY AND DESCRIBE THE OPERATION OF ONE MACHINE.

H WILL HELP YOU PERFORM A TASK AT SCHOOL OR AT HOME.

SIX SIMPLE MACHINES (INCLINED PLANE, SCREW, WEDGE, LEVER, PULLEY, WHEEL, AND AXLE) NG MODEL.

NE MULTIPLIES EFFORT BUT DOES NOT INCREASE WORK.

INDING INCLINED PLANE.

TURNING A SCREW INTO WOOD THAN PUSHING IT BY PARTIALLY TURNING IT INTO WOOD THEN REST OF THE WAY.

ANE. CUT INCLINED PLANE 12 INCHES BY 6 INCHES AND WIND IT AROUND A PENCIL. IT TAKE 11 TURNS.

0206470005	DESCRIBE THAT TURNING THE SCREW INTO WOOD IS SIMILAR TO	USING AN
0206470006	KNOW THAT WEDGES ARE MOVABLE INCLINED PLANES FOR	OVERCOMI
0206470007	DEMONSTRATE AN INCLINED PLANE MAKES A JOB EASIER BY BOARD, CAUSING THE AMOUNT TO READ LESS THAN BY LIFTING	PULLING THE SKAT
0206470008	KNOW THAT THE EFFORT NEEDED TO RAISE A WEIGHT A GIVEN IS INCREASED.	DISTANCE
0206470009	KNOW THAT A LEVER IS A SIMPLE MACHINE THAT CONCENTRATES LEVER USUALLY MULTIPLIES FORCE.	THE EFFO
0206470010	KNOW THAT THE EFFORT NEEDED TO RAISE A WEIGHT WITH A THE EFFORT FROM THE FULCRUM.	LEVER DE
0206470011	KNOW THAT MOVING THE FULCRUM IN RELATION TO LOAD AND APPLIED TO LIFT A LOAD.	EFFORT I
0206470012	KNOW THAT THE LONGER THE EFFORT ARM, THE MORE A FORCE IS MULTIPLY	
0206470013	DEMONSTRATE LOCATION OF FULCRUM AFFECTING EFFORT FORCE CLOSE TO EFFORT, CAUSING GREATER EFFORT FORCE AS FULCRUM IS CLOSE	USING A IS CLOSE
0206470014	DEMONSTRATE A LEVER MAKES A JOB EASIER BY USING A RULER DOWN THE OTHER END CAUSING IT TO READ LESS THAN WITH THE	TO HOLD BALANCE
0206470015	DESCRIBE THAT THE LEVER IS A FORCE MULTIPLIER SINCE IT	ALLOWS F
0206470016	KNOW THAT A FIXED PULLEY CHANGES THE DIRECTION OF A	FORCE.
0206470017	KNOW THAT A FIXED PULLEY CHANGES THE DIRECTION OF THE	EFFORT F
0206470018	DEMONSTRATE A FIXED PULLEY CHANGES DIRECTION OF FORCE FIXED PULLEY. COMPARING DIRECTION WITH AND WITHOUT	REQUIRED PULLEY.

WOOD IS SIMILAR TO USING AN INCLINED PLANE USING LESS EFFORT FORCE.

ED PLANES FOR OVERCOMING GREAT RESISTANCES.

A JOB EASIER BY PULLING A SKATE WITH A SPRING BALANCE UP A SLANTED
LESS THAN BY LIFTING THE SKATE ALONE.

E A WEIGHT A GIVEN DISTANCE DECREASES AS THE LENGTH OF AN INCLINED PLACE

NE THAT CONCENTRATES THE EFFORT FORCE AND THE LOAD, EACH AT ONE POINT. A

E A WEIGHT WITH A LEVER DEPENDS ON THE RELATIVE DISTANCES OF THE LOAD AND

ATION TO LOAD AND EFFORT INCREASES OR DECREASES THE EFFORT THAT MUST BE

THE MORE A FORCE IS MULTIPLIED.

ECTING EFFORT FORCE USING A SPRING BALANCE TO MEASURE FORCE WHEN FULCRUM IS
FORT FORCE AS FULCRUM IS CLOSER TO LOAD.

IER BY USING A RULER TO HOLD A BOOK WHILE A SPRING BALANCE IS USED TO PULL
AD LESS THAN WITH THE BALANCE ALONE.

MULTIPLIER SINCE IT ALLOWS FOR LESS FORCE NEEDED TO LIFT AN OBJECT.

HE DIRECTION OF A FORCE. IT DOES NOT MULTIPLY THE FORCE.

HE DIRECTION OF THE EFFORT FORCE. A MOVABLE PULLEY DOUBLES THE FORCE.

DIRECTION OF FORCE REQUIRED TO LIFT A LOAD, BY LIFTING A BRICK USING A
WITH AND WITHOUT PULLEY.

0206470019	DEMONSTRATE A MOVABLE PULLEY REDUCES EFFORT IN A FIXED AND MOVABLE PULLEY CAUSING LESS EFFORT WITH	COMPARS MOVABLE
0206470020	KNOW THAT PULLEY SYSTEMS BOTH CHANGE THE DIRECTION OF A	FORCE A
0206470021	TEST UNDERSTANDING OF PULLEYS BY CONSIDERING SEVERAL	SITUATI
0206470022	KNOW THAT A BLOCK AND TACKLE PULLEY SYSTEM MULTIPLIES	THE FOR
0206470023	DEMONSTRATE A BLOCK AND TACKLE CAN INCREASE THE TIMES A TACKLE USING FIXED AND MOVABLE PULLEYS PROVING FORCE IS	FORCE IS INCREASE
0206470024	DESCRIBE THE AMOUNT OF EFFORT FORCE IS MULTIPLIED IS SUPPORT THE MOVEABLE PULLEY BLOCK.	INCREASE
0206470025	DEMONSTRATE USING TWO DOUBLE BLOCKS IN A BLOCK AND BOTH SYSTEMS. COMPARE EFFORT.	TACKLE
0206470026	KNOW THAT ONE USE OF THE WHEEL AND AXLE IS TO INCREASE	SPEED.
0206470027	KNOW THAT A WHEEL AND AXLE MULTIPLIES FORCE WHEN IT IS APPLIED TO THE AXLE.	APPLIED
0206470028	KNOW THAT GEARS MULTIPLY FORCE OR INCREASE SPEED AS THE FORCE.	WHEEL AN
0206470029	DEMONSTRATE FRICTION RESISTS MOTION BY PULLING WOOD OILED SURFACE, COMPARING WITH SPRING BALANCE WHICH	ACROSS REQUIRES
0206470030	DEMONSTRATE WORK LIFTING A SKATE TO THE TOP OF A PILE OF BOOKS IS TO EQUAL HEIGHT BY READING A SPRING BALANCE AND APPLYING THE WORK	IS THE WORK
0206470031	MATCH EXAMPLES OF INCLINED PLANE, FIXED PULLEY, WHEEL THEY MAKE WORK EASIER.	AND AXLE
0206470032	WHEN GIVEN DRAWINGS OF LEVERS, RECOGNIZE THE FULCRUM,	THE LOAD

REDUCES EFFORT IN LIFTING A BRICK USING A
 USING LESS EFFORT WITH A MOVABLE PULLEY.
 CHANGE THE DIRECTION OF A FORCE AND MULTIPLY IT.
 CONSIDERING SEVERAL SITUATIONS IN WHICH THEY MAY BE USED.
 A PULLEY SYSTEM MULTIPLIES THE FORCE BY THE NUMBER OF ROPES THAT SUPPORT THE LOAD.
 AN INCREASE IN THE NUMBER OF PULLEYS PROVIDING FORCE IS
 FORCE IS MULTIPLIED - WEIGHT LOAD, LIFT WITH BLOCK AND INCREASED.
 FORCE IS MULTIPLIED IS INCREASED WITH AN INCREASE IN THE NUMBER OF STRINGS THAT
 BLOCKS IN A BLOCK AND TACKLE MULTIPLY FORCE MORE THAN TWO SINGLE BLOCKS. USE
 WHEEL AND AXLE IS TO INCREASE SPEED.
 MULTIPLIES FORCE WHEN IT IS APPLIED TO THE WHEEL, AND INCREASES SPEED WHEN IT IS
 INCREASES SPEED AS THE WHEEL AND AXLE DOES, AND CHANGE THE DIRECTION OF THE
 FORCE BY PULLING DOWN ON THE WIRE WHICH
 ACROSS THREE DIFFERENT SURFACES - TABLE TOP, SAND PAPER,
 REQUIRES GREATEST EFFORT.
 TO THE TOP OF A PILE OF BOOKS IS EQUAL TO WORK PULLING IT UP AN INCLINED PLANE
 USING A WEDGE AND APPLYING THE WORK RULE.
 A FIXED PULLEY, WHEEL AND AXLE, LEVEL, WEDGE, AND SCREW WITH WAYS IN WHICH
 RECOGNIZE THE FULCRUM, THE LOAD, AND THE BEST POINT TO APPLY EFFORT.

0206470033

DEMONSTRATE DIFFERENCE BETWEEN VALUE OF A FIXED PULLEY AND VALUE OF V

0206470034

DEMONSTRATE RELATIONSHIPS BETWEEN EFFORT APPLIED AND AMOUNT OF WORK
SIMPLE MACHINES.

PAGE 148

VALUE OF A FIXED PULLEY AND VALUE OF A BLOCK AND TACKLE AS SIMPLE MACHINES.
GIVEN EFFORT APPLIED AND AMOUNT OF WORK DONE IN EXPERIMENTAL SITUATIONS USING

0200475	MAMMALS	
0200475001	KNOW THE CHARACTERISTICS AND LIFE ACTIVITIES OF MAMMALS.	
0200475002	KNOW THAT THE MOTHER MAMMAL HAS BABIES, WHICH SHE WILL THEIR OWN TO BECOME ADULTS.	TA
0200475003	DESCRIBE HOW THE MOTHER MAMMAL HAS BABIES, WHICH SHE ON THEIR OWN TO BECOME ADULTS.	WI
0200475004	DESCRIBE THE CHARACTERISTICS AND LIFE ACTIVITIES OF THEM MOVE, EAT, CONSTRUCT NESTS, AND RAISE YOUNG.	MA
0205475	MAMMALS	
0205475001	KNOW THAT THE MAMMALS HAVE BEEN MORE SUCCESSFUL IN THEIR AD	
0205475002	KNOW THAT MAMMALS ARE ADAPTED FOR THE PROTECTION AND	CA
0205475003	UNDERSTAND THE IMPORTANT RELATIONSHIP BETWEEN CHANGES IN ST CHANGES IN CHROMOSOMES.	

AND LIFE ACTIVITIES OF MAMMALS.

MAMMAL HAS BABIES, WHICH SHE WILL TAKE CARE OF FOR A WHILE UNTIL THE BABIES CAN GROW ON THEIR OWN.

MAMMAL HAS BABIES, WHICH SHE WILL TAKE CARE OF FOR A WHILE UNTIL THE BABIES CAN GROW INTO ADULTS.

STUDIES AND LIFE ACTIVITIES OF MAMMALS, SUCH AS WHITE RATS OR GUINEA PIGS, BY OBSERVING THEIR NESTS, AND RAISE YOUNG.

THEY HAVE BEEN MORE SUCCESSFUL IN THEIR ADAPTATIONS THAN HAVE OTHER FORMS OF LIVING THINGS.

ADAPTED FOR THE PROTECTION AND CARE OF THEIR YOUNG.

THE RELATIONSHIP BETWEEN CHANGES IN STRUCTURE AND FUNCTION OF THE BODY (ADAPTATION) AND

0200480 MAGNETS

0200480001 DEMONSTRATE THE PUSHING AND PULLING FORCE OF A MAGNET, BY USING
OBJECTS.

0200480002 KNOW THE PUSHING AND PULLING FORCE OF A MAGNET, BY USING A MA

0200480003 KNOW THAT ONE BAR MAGNET EFFECTS ANOTHER BY CAUSING LIKE ENDS TO RE

0200480004 DEMONSTRATE THE EFFECT OF ONE BAR MAGNET UPON ANOTHER, BY CAUSING
ATTRACT.

0200480005 KNOW THAT BAR MAGNETS ARE STRONGER ON THE ENDS THAN IN THE MIDDLE

0200480006 DEMONSTRATE THAT BAR MAGNETS ARE STRONGER ON THE ENDS THAN IN TH
PLACES ON THE MAGNET.

0200480007 KNOW THAT SOME OBJECTS ARE AFFECTED BY THE MAGNET AND OTHERS ARE

0200480008 DISTINGUISH BETWEEN OBJECTS THAT CAN AND CANNOT BE MOVED BY THE MAG
NOT AFFECTED BY THE MAGNET.

0201480 MAGNETS

0201480001 KNOW THAT A MAGNETIC FORCE CAN BE USED TO OVERCOME THE FORCE OF G

0201480002 DEMONSTRATE THAT A MAGNETIC FORCE CAN BE USED TO OVERCOME T
SOME OBJECTS.

0201480003 KNOW THAT A MAGNET CAN BE USED TO PICK UP SOME METAL OBJECTS FR
OBJECTS.

0201480004 DEMONSTRATE THAT A MAGNET CAN BE USED TO PICK UP SOME METAL OBJE
NON-METAL OBJECTS.

0201480005 KNOW THAT OBJECTS CAN BE ORDERED INTO TWO GROUPS THOSE THAT CAN B

LING FORCE OF A MAGNET, BY USING A MAGNET TO LIFT AND MOVE VARIOUS METAL
 RCE OF A MAGNET, BY USING A MAGNET TO LIFT AND MOVE VARIOUS METAL OBJECTS.
 S ANOTHER BY CAUSING LIKE ENDS TO REPEL AND UNLIKE ENDS TO ATTRACT,
 AR MAGNET UPON ANOTHER, BY CAUSING LIKE ENDS TO REPEL AND UNLIKE ENDS TO
 GER ON THE ENDS THAN IN THE MIDDLE.
 E STRONGER ON THE ENDS THAN IN THE MIDDLE, BY LIFTING PAPER CLIPS AT DIFFERENT
 CTED BY THE MAGNET AND OTHERS ARE NOT.
 T CAN AND CANNOT BE MOVED BY THE MAGNET, BY USING VARIOUS KINDS OF OBJECTS, SOME
 BE USED TO OVERCOME THE FORCE OF GRAVITY.
 CE CAN BE USED TO OVERCOME THE FORCE OF GRAVITY, BY USING A MAGNET TO LIFT
 TO PICK UP SOME METAL OBJECTS FROM AN ARRAY OF DIFFERENT METAL AND NON-METAL
 E USED TO PICK UP SOME METAL OBJECTS FROM AN ARRAY OF DIFFERENT METAL AND
 D INTO TWO GROUPS THOSE THAT CAN BE PICKED UP BY A MAGNET AND THOSE THAT CANNOT.

0201480006 ORDER OBJECTS INTO TWO GROUPS, THOSE THAT CAN BE PICKED UP BY

0205480 MAGNETS

0205480001 GIVEN GROUP OF OBJECTS AND A MAGNET, PREDICT WHICH OF THE O
TEST YOUR PREDICTIONS IN EXPERIMENTAL PROCEDURES. EX

0205480002 GIVEN A MAGNET AND GROUP OF MATERIALS (E.G., PAPER, CARDB
MATERIALS ARE MAGNETICALLY TRANSPARENT. OF
LY

0205480003 GIVEN TWO MARKED BAR MAGNETS, RECOGNIZE THE POLES WHICH ATTRA
NE

0205480004 GIVEN A MAGNET, DEMONSTRATE THE PATTERN OF ITS LINES OF FORCE
ATI

0206480 MAGNETS

0206480001 DEMONSTRATE DIFFERENCE BETWEEN MAGNETIC MATERIALS WHICH ARE P
ET

0206480002 GIVEN DIAGRAM OR DRAWING OF A MAGNETIC FIELD, LOCATE THE STRON
FIELD. O

0206480003 TELL THE DIFFERENCE BETWEEN THE NORTH GEOGRAPHIC POLE AND T
EE

GROUPS, THOSE THAT CAN BE PICKED UP BY A MAGNET AND THOSE THAT CANNOT.

AND A MAGNET, PREDICT WHICH OF THE OBJECTS ARE MAGNETIC AND WHICH ARE NONMAGNETIC.
EXPERIMENTAL PROCEDURES.

OF MATERIALS (E.G., PAPER, CARDBOARD, PLASTIC GLASS, TIN), DEMONSTRATE WHICH
LY TRANSPARENT.

NETS, RECOGNIZE THE POLES WHICH ATTRACT EACH OTHER AND THE POLES WHICH REPEL EACH OTHER.

ATE THE PATTERN OF ITS LINES OF FORCE.

BETWEEN MAGNETIC MATERIALS WHICH ARE PERMANENT AND THOSE WHICH ARE TEMPORARY.

OF A MAGNETIC FIELD, LOCATE THE STRONGEST AND WEAKEST LINES OF FORCE IN THE MAGNETIC

BETWEEN THE NORTH GEOGRAPHIC POLE AND THE NORTH MAGNETIC POLE.

0205485

MEALWORMS

0205485001

RECOGNIZE BODY PARTS OF A MEALWORM (ANTENNA, HEAD,
FUNCTIONS.

MOUTH WOR

PAGE 152

FORM (ANTENNA, HEAD, MOUTH, LEG, THORAX, ABDOMEN) AND DESCRIBE THEIR

0206490 METALS

0206490001 KNOW THAT THE CONCEPTS OF THE BEHAVIOR OF MATTER HAD TO BE UNDERSTOOD

0206490002 KNOW THAT METALS CAN BE SEPARATED FROM THEIR COMPOUNDS. THEY COMBINE TO FORM NEW PROPERTIES.

0206490003 KNOW THAT HEAT IS A SOURCE OF ENERGY FOR EXTRACTING COPPER FROM ORES

0206490004 KNOW THAT HEAT IS A SOURCE OF ENERGY FOR EXTRACTING IRON FROM ORES

0206490005 KNOW THAT METALS WITH NEW PROPERTIES CAN BE OBTAINED IF TWO OR MORE METALS ARE MELTED TOGETHER AND COOLED.

0206490006 KNOW THAT ALLOYS PROVIDE US WITH SUBSTANCES WITH ADVANTAGES

0206490007 KNOW THAT ALUMINUM HAS MANY USES.

IF THE BEHAVIOR OF MATTER HAD TO BE UNDERSTOOD BEFORE METALS COULD BE USED WIDELY,
SEPARATED FROM THEIR COMPOUNDS. THEY CAN BE COMBINED TO OBTAIN NEW COMPOUNDS HAVING NEW
CE OF ENERGY FOR EXTRACTING COPPER FROM ITS ORES.
CE OF ENERGY FOR EXTRACTING IRON FROM ITS ORE.
W PROPERTIES CAN BE OBTAINED IF TWO OR MORE ELEMENTS, AT LEAST ONE OF THEM A METAL, ARE
ED.
US WITH SUBSTANCES WITH ADVANTAGEOUS PROPERTIES.
ANY USES.

0204495 MICRO-ORGANISMS

0204495001 DEMONSTRATE FOOD IS NECESSARY FOR ORGANISMS TO GROW AND MULTI
HARD-BOILED EGG YOLK CAUSING JARS WITH FOOD TO BE CLOUDY WITH

0205495 MICROORGANISMS

0205495001 PLAN FOR COLLECTING, CULTURING, AND STUDYING PROTOZOANS.

0205495002 KNOW THAT PROTOZOANS MOVE AND GATHER FOOD IN DIFFERENT WAYS.

0205495003 DESCRIBE MOVEMENT AND FEEDING OF LIFE IN DROP OF POND WATER

0205495004 DISTINGUISH BETWEEN LIFE FOUND IN DROP OF WATER AND IN WATER

FOR ORGANISMS TO GROW AND MULTIPLY BY CULTURING POND WATER WITH/WITHOUT ADDING JARS WITH FOOD TO BE CLOUDY WITH MICRO-ORGANISMS.

G, AND STUDYING PROTOZOANS.

GATHER FOOD IN DIFFERENT WAYS.

OF LIFE IN DROP OF POND WATER. USE MICROSCOPE.

D IN DROP OF WATER AND IN WATER FROM SURFACE OF POND MUD. USE MICROSCOPE.

0205500 MICROSCOPE TECHNIQUE

0205500001 USE A COMPOUND MICROSCOPE BY SETTING UP AND FOCUSING IT FOR COM

0205500002 GIVEN A MICROSCOPE, A SLIDE, AND A SIMPLE SKETCH, LABEL SKETCHES
RECORD THE MAGNIFICATION USED. ION

0205500003 GIVEN LIST OF DIRECTIONS, PREPARE A SLIDE FOR VIEWING FROM ONE
SLIP, A SPECIMEN (SUCH AS POND WATER). H

0205500004 DEMONSTRATE HOW TO PLACE A COVER SLIP ON DROP OF WATER (POND) AC

0205500005 DEMONSTRATE USE OF MICROSCOPE. PLACE IN FOCUS SLIDE PREP CR

COPE BY SETTING UP AND FOCUSING IT FOR VIEWING AT A GIVEN POWER.

SLIDE, AND A SIMPLE SKETCH, LABEL SKETCH ACCORDING TO WHAT YOU OBSERVE ON THE SPECIMEN.
ION USED.

ONS, PREPARE A SLIDE FOR VIEWING FROM THE FOLLOWING MATERIALS A GLASS SLIDE, A COVER
H AS POND WATER).

ACE A COVER SLIP ON DROP OF WATER (POND) ON MICROSCOPE SLIDE. DO NOT TRAP AIR BUBBLES.

CROSCOPE. PLACE IN FOCUS SLIDE PREPARED EARLIER.

0200505

MOLLUSKS

0200505001

KNOW THAT A SNAIL BEGAN ITS LIFE AS AN EGG, WHICH

HATCHED INTO A

0200505002

DESCRIBE THAT A SNAIL BEGAN ITS LIFE AS AN EGG, WHICH

HATCHED INTO LI

0200505003

KNOW THE CHARACTERISTICS AND LIFE ACTIVITIES OF AQUATIC

AND GARDEN FE

0200505004

DESCRIBE THE CHARACTERISTICS AND LIFE ACTIVITIES OF
EAT.

AQUATIC AND L

0204505

MOLLUSKS

0204505001

DESCRIBE THE HATCHING OF AN EGG, BY OBSERVING AND
SNAILS HATCH.

RECORDING CH E

AS AN EGG, WHICH HATCHED INTO A TINY SNAIL AND THEN GREW INTO AN ADULT.

LIFE AS AN EGG, WHICH HATCHED INTO A TINY SNAIL AND THEN GREW INTO AN ADULT.

FE ACTIVITIES OF AQUATIC AND GARDEN SNAILS.

D LIFE ACTIVITIES OF AQUATIC AND GARDEN SNAILS, BY OBSERVING THEM MOVE AND

BY OBSERVING AND RECORDING CHANGES OF SNAIL EGGS EACH DAY UNTIL TINY

0204510 PLANTS (ADAPTATION)

0204510001 KNOW THAT DIFFERENT PLANTS ARE ADAPTED TO DIFFERENT ENVIRONMENTS

0204510002 DEMONSTRATE HOW NONGREEN PLANTS ARE ADAPTED FOR OBTAINING

0206510 PLANTS (ADAPTATION)

0206510001 DESCRIBE THAT PLANTS FROM POTATO HAD SAME HEREDITY BUT DID NOT COME

NTS ARE ADAPTED TO DIFFERENT ENVIRONMENTS.

N PLANTS ARE ADAPTED FOR OBTAINING FOOD AND REPRODUCING.

OM POTATO HAD SAME HEREDITY BUT DID NOT DEVELOP ALIKE DUE TO ENVIRONMENT.

0206515	PLANTS (BACTERIA)	
0206515001	KNOW THAT BACTERIA CAN BE CLASSIFIED, OR GROUPED BY	THEIR STRUCT
0206515002	INFER, FROM INVESTIGATION, THAT HEAT AND ABSENCE OF MOST BACTERIA.	LIGHT IN THE
0206515003	APPLY UNDERSTANDING OF THE NEEDS OF BACTERIA TO METHODS	OF FOOD PRES
0206515004	KNOW THAT BACTERIA CAN BE CLASSIFIED AS HELPFUL OR	HARMFUL TO M
0206515005	KNOW THAT THE GROWTH OF LARGE NUMBERS OF BACTERIA OR HEALTH.	TOXICITY OF
0206515006	KNOW THAT BACTERIA OBTAIN FOOD FROM CHANGING COMPLEX	SUBSTANCES I
0206515007	CHILD WILL DEMONSTRATE GROWTH OF BACTERIA USING PETRI REFRIGERATOR AND OTHER IN A WARM DARK PLACE, THEN	DISHES, EXPO COMPARE GROW
0206515008	DEMONSTRATE CULTURE OF MICROORGANISMS, BY ADDING HARD- FOR SEVERAL DAYS UNTIL CULTURE IS SWARMING WITH	BOILED EGG Y BACTERIA.
0206515009	GIVEN DRAWINGS OR DESCRIPTIONS OF THREE TYPES OF CORRECTLY.	BACTERIA (CO

ED, OR GROUPED BY THEIR STRUCTURE.

AT AND ABSENCE OF LIGHT IN THE ENVIRONMENT ARE ESSENTIAL FOR GROWTH OF

F BACTERIA TO METHODS OF FOOD PRESERVATION.

ED AS HELPFUL OR HARMFUL TO MAN.

ERS OF BACTERIA OR TOXICITY OF SUBSTANCES FORMED MAY BE DANGEROUS TO

M CHANGING COMPLEX SUBSTANCES INTO SIMPLER ONES.

BACTERIA USING PETRI DISHES, EXPOSE THE PREPARED DISHES, PLACING ONE IN
 DARK PLACE, THEN COMPARE GROWTH.

SMS, BY ADDING HARD-BOILED EGG YOLK TO JAR OF POND WATER, KEEPING IT WARM
 SWARMING WITH BACTERIA.

THREE TYPES OF BACTERIA (COCCUS, BACILLUS, AND SPIRILLUM), LABEL

0206520

PLANTS (BACTERIA AND MOLD)

0206520001

KNOW THAT BACTERIA AND MOLD ARE CLASSIFIED AS PLANTS BY THEIR

0206520002

KNOW THAT BACTERIA AND MOLDS CHEMICALLY BREAK DOWN
THROUGH A MEMBRANE.

COMPL

OLD ARE CLASSIFIED AS PLANTS BY THEIR STRUCTURE.

OLDS CHEMICALLY BREAK DOWN COMPLEX FOODS INTO SIMPLE SUBSTANCES THAT CAN PASS

0202525	PLANTS (CAPILLARY ACTION)
0202525001	KNOW THAT WATER TRAVELS THROUGH THE STEM AND INTO THE
0202525002	DEMONSTRATE THAT WATER TRAVELS THROUGH THE STEM AND INTO CONTAINING DYE AND LEAVING IT THERE UNTIL THE COLOR
0203525	PLANTS (CAPILLARY ACTION)
0203525001	KNOW THAT WATER CAN MOVE UP A SUBSTANCE.
0203525002	KNOW THAT THE FORCE THAT CAUSES THE LIQUID TO RISE UP
0203525003	DEMONSTRATE HOW WATER CAN MOVE UP A SUBSTANCE, BY AND ANOTHER IN WATER CONTAINING RED INK, CAUSING BOTH
0203525004	DESCRIBE THAT THE FORCE THAT CAUSES THE LIQUID TO RISE
0203525005	KNOW THAT A SOLUTION WILL MOVE UP A PLANT STEM.
0203525006	DEMONSTRATE THAT A SOLUTION WILL MOVE UP A PLANT STEM BY AND BY OBSERVING THAT IN TIME THE COLOR APPEARS IN THE

THE STEM AND INTO THE LEAVES.

THROUGH THE STEM AND INTO THE LEAVES, BY PLACING CUT CELERY STALK IN WATER
UNTIL THE COLOR APPEARS IN THE LEAF VEINS.

SUBSTANCE.

THE LIQUID TO RISE UP THE BLOTTER IS SIMILAR TO THAT WHICH WORKS IN PLANTS.

FOR A SUBSTANCE, BY PLACING ONE STRIP OF BLOTTER PAPER IN A GLASS OF WATER
RED INK, CAUSING BOTH LIQUIDS TO RISE UP THE BLOTTERS.

CAUSES THE LIQUID TO RISE UP THE BLOTTER IS SIMILAR TO THAT WHICH WORKS IN PLANTS.

FOR A PLANT STEM.

TO MOVE UP A PLANT STEM BY PLACING A CUT CELERY STALK INTO WATER CONTAINING DYE,
THE COLOR APPEARS IN THE LEAVES.

0204530

PLANTS (FERTILIZATION)

0204530001

DESCRIBE ORALLY OR IN WRITING HOW FERTILIZATION TAKES

P TIL

PAGE 161

FERTILIZATION TAKES PLACE IN THE PLANT.

0204535

PLANTS (FOOD CHAINS)

0204535001

KNOW THAT FOOD CHAINS LEAD ULTIMATELY TO GREEN PLANTS.

0204540

PLANTS (GASES)

0204540001

KNOW THAT GREEN PLANTS GIVE OFF OXYGEN GAS.

0204540002

KNOW THAT THE SUBSTANCES IN THE AIR ARE AFFECTED BY THE ACT
IN LIGHT, AND TAKE IN CARBON DIOXIDE).

E OFF OXYGEN GAS.

N THE AIR ARE AFFECTED BY THE ACTION OF GREEN PLANTS. (GREEN PLANTS GIVE OFF OXYGEN
ON DIOXIDE).

0201545 PLANTS (GROWTH)

0201545001 KEEP AN ACCURATE RECORD OF THE CHANGING PROPERTIES OF A GR

0201545002 DESCRIBE THE CHANGE OF PROPERTIES IN A GROWING PLANT.

0203545 PLANTS (GROWTH)

0203545001 KNOW THAT ALL GREEN PLANTS MAKE FOOD.

0203545002 DEFINE CHLOROPHYLL.

0203545003 MAKE DISPLAY OF PLANTS THAT DO NOT MAKE FOOD.

0204545 PLANTS (GROWTH)

0204545001 KNOW HOW GROWING PLANTS CAN BREAK ROCKS.

0204545002 KNOW HOW MATTER FROM THE ENVIRONMENT IS USED FOR GROWTH BY

0204545003 KNOW THAT PLANTS HAVE LIFE CYCLES ADAPTED TO GROWTH IN THE

0204545004 CONSTRUCT A HYPOTHESIS ABOUT WHAT WILL HAPPEN TO THE HEIGHT WHEN IT CONTINUES GROWING.

0204545005 DEMONSTRATE THAT THE HEIGHT OF THE MARK WILL NOT CHANGE AS

0205545 PLANTS (GROWTH)

CHANGING PROPERTIES OF A GROWING PLANT.

ES IN A GROWING PLANT.

FOOD.

NOT MAKE FOOD.

AK ROCKS.

NMENT IS USED FOR GROWTH BY CELLS OF GREEN PLANTS AND ALL OTHER LIVING THINGS.

ES ADAPTED TO GROWTH IN THEIR ENVIRONMENTS.

AT WILL HAPPEN TO THE HEIGHT OF A MARK ON A GROWING PLANT STEM, AS THE PLANT

THE MARK WILL NOT CHANGE AS THE PLANT CONTINUES GROWING.

0205545001	KNOW THAT DURING PHOTOSYNTHESIS (THE MANUFACTURE OF	CARBOHYDRATE
0205545002	CONSTRUCT AN HYPOTHESIS CONCERNING THE REACTIONS IN A	PLANT THAT
0205545003	OPERATIONALLY DEFINE PHOTOSYNTHESIS AND CHLOROPHYLL.	
0205545004	KNOW THAT DURING PHOTOSYNTHESIS, GREEN PLANTS	MANUFACTURE
	OF LIGHT.	
0205545005	PERFORM AN INVESTIGATION SHOWING THE PRODUCTION OF	OXYGEN DURING
	FOR THIS PROCESS.	
0205545006	DISCOVER THAT MANY OF OUR FOODS COME FROM PLANTS CELLS	SPECIALIZED
0205545007	KNOW THAT GREEN PLANTS MAKE CARBOHYDRATES FROM CARBON	DIOXIDE AND
	PLANTS FOR THEIR FOOD.	
0205545008	KNOW THAT PLANTS MAKE AND STORE FATS.	
0205545009	KNOW THAT PLANTS MAKE AND STORE PROTEINS.	
0205545010	KNOW THAT GREEN PLANTS ARE A BASIC SOURCE FOR MANY	SUBSTANCES
0205545011	LIST THE FOOD SUBSTANCE AND GASES PRODUCED DURING	PHOTOSYNTHESIS
0205545012	KNOW THAT PLANTS ARE A SOURCE OF FOOD SUBSTANCES THAT	KEEP US WELL

0206545 PLANTS (GROWTH)

0206545001	DEMONSTRATE EFFECT OF ENVIRONMENT ON LIVING THINGS OF	SAME HERE
	FOOD, WATER, LIGHT, AND ARRANGE IN FOUR DIFFERENT	COMBINATIONS

PHOTOSYNTHESIS (THE MANUFACTURE OF
CONCERNING THE REACTIONS IN A
PHOTOSYNTHESIS AND CHLOROPHYLL.

CARBOHYDRATES), GREEN PLANTS PRODUCE OXYGEN.
PLANT THAT MIGHT PRODUCE CARBOHYDRATES.

PHOTOSYNTHESIS, GREEN PLANTS

MANUFACTURE SIMPLE SUGARS AND STARCHES, USING THE ENERGY
OXYGEN DURING PHOTOSYNTHESIS AND THE NECESSITY OF LIGHT

SHOWING THE PRODUCTION OF

OUR FOODS COME FROM PLANTS CELLS

SPECIALIZED FOR STORAGE OF CARBOHYDRATES.

MAKE CARBOHYDRATES FROM CARBON

DIOXIDE AND WATER. ANIMALS ARE DEPENDENT ON GREEN

AND STORE FATS.

AND STORE PROTEINS.

ARE A BASIC SOURCE FOR MANY

SUBSTANCES NEEDED BY ALL ANIMAL LIFE.

AND GASES PRODUCED DURING

PHOTOSYNTHESIS.

SOURCE OF FOOD SUBSTANCES THAT

KEEP US WELL.

ENVIRONMENT ON LIVING THINGS OF
ARRANGE IN FOUR DIFFERENT

SAME HEREDITY. GROW PLANTS FROM POTATO EYES, CONTROL
COMBINATIONS.

0204550 PLANTS (HYBRIDS)

0204550001 DEBATE FOR OR AGAINST SPENDING TIME AND MONEY TO IMPROVE THE QUANTITY
HYBRIDIZATION.

0205550 PLANTS (HYBRIDS)

0205550001 GIVEN DUPLICATES OF SEEDS, PLANTS, OR FRUITS, TRY TO IMPROVE THE

0206550 PLANTS (HYBRIDS)

0206550001 DEMONSTRATE CROSS-POLLINATION OF PETUNIAS. REMOVE STAMENS FROM
TRANSFER POLLEN TO IT FROM RED FLOWER. PRODUCE PINK-WHITE FLOWERS

TIME AND MONEY TO IMPROVE THE QUANTITY AND THE QUALITY OF CROPS BY SELECTION OR

S, OR FRUITS, TRY TO IMPROVE THE QUALITY BY SELECTION, GRAFTING, OR BUDDING.

PETUNIAS. REMOVE STAMENS FROM COVERED WHITE BUD. LET FLOWER MATURE.
LOWER. PRODUCE PINK-WHITE FLOWER FROM IT.

0201555	PLANTS (MOLDS)	
0201555001	KNOW THAT MOLD PLANTS MAKE MORE MOLD PLANTS.	
0201555002	DEMONSTRATE THAT MOLD PLANTS MAKE MORE MOLD PLANTS BY DARK, WARM PLACE.	PLAC
0203555	PLANTS (MOLDS)	
0203555001	NAME THE THINGS GROWING AS MOLDS, WHICH ARE FUNGI PLANTS ON M	
0204555	PLANTS (MOLDS)	
0204555001	WHEN GIVEN THE APPROPRIATE MATERIAL UNDER CONTROLLED GROW SUCCESSFULLY UNDER CONTROLLED CONDITIONS.	COND
0204555002	DEMONSTRATE THAT MOLD WILL GROW ON FOOD, PLACING PLACE FOR A FEW DAYS.	MOIS
0204555003	DESCRIBE THE GROWTH OF THE MOLD ON BREAD AS SIMILAR TO CELLS TO DISAPPEAR IN TIME.	WHIC
0206555	PLANTS (MOLDS)	
0206555001	DEMONSTRATE GROWTH OF MOLD. USE TWO PIECES OF DRY PLACE. MOLD WILL GROW ON MOIST PIECE.	BREA
0206555002	THE CHILD WILL DESCRIBE THE MOLD WHICH GROWS BY OF THREADS, BLACK BALL AT ONE END, AND ROOT-LIKE PARTS.	OBSE

MORE MOLD PLANTS.

MAKE MORE MOLD PLANTS BY PLACING A PIECE OF MOLDY FOOD NEAR NON-MOLDY FOODS IN A

MOLDS, WHICH ARE FUNGI PLANTS ON MOLDED BREAD.

MATERIAL UNDER CONTROLLED
ROLLED CONDITIONS.

CONDUCTION, CONDUCT AN EXPERIMENT TO SHOW MOLDS WILL

GROW ON FOOD, PLACING

MOISTENED STALE BREAD IN A COVERED JAR AND IN A WARM

MOLD ON BREAD AS SIMILAR TO

WHICH FUNGI WOULD GROW ON A DEAD TREE, CAUSING THE TREE

USE TWO PIECES OF DRY
IST PIECE.

BREAD, MOISTEN ONE, PLACE EACH IN A SEALED JAR IN DARK

MOLD WHICH GROWS BY
E END, AND ROOT-LIKE PARTS.

OBSERVING WITH A MICROSCOPE AND NOTING CHARACTERISTICS

0201560	PLANTS (NEEDS)	
0201560001	PREPARE AN EXPERIMENT IN WHICH YOU TRY TO GROW SIMILAR	SEEDS
0201560002	KNOW THAT WATER IS ESSENTIAL FOR SURVIVAL OF LIVING	PLANTS
0201560003	DEMONSTRATE THAT WATER IS ESSENTIAL FOR SURVIVAL OF SOME WITH SUFFICIENT WATER, AND SOME WITH INSUFFICIENT	LIVING PLANTS
0201560004	KNOW THAT GREEN PLANTS NEED SUNLIGHT.	SUNLIGHT
0201560005	DEMONSTRATE THAT GREEN PLANTS NEED SUNLIGHT, BY IN THE DARK TO BE PALE AND WEAK.	SPROUTS PLANTS
0202560	PLANTS (NEEDS)	
0202560001	KNOW THAT SEEDS NEED HEAT TO GROW.	SEEDS
0202560002	DEMONSTRATE THAT SEEDS NEED HEAT TO GROW, BY TRYING TO PLACE, SHOWING THAT SEEDS GROW SUBJECT TO LIMITS OF	SPROUTS PLANTS
0202560003	KNOW THAT A GREEN PLANT NEEDS WATER.	PLANTS
0202560004	DEMONSTRATE THAT A GREEN PLANT NEEDS WATER, BY GROWING WATERING OTHERS.	PLANTS
0202560005	KNOW THAT A GREEN PLANT NEEDS LIGHT.	PLANTS
0202560006	DEMONSTRATE THAT A GREEN PLANT NEEDS LIGHT BY GROWING	SPROUTS
0203560	PLANTS (NEEDS)	
0203560001	KNOW THE CONDITIONS UNDER WHICH A PLANT THAT IS NOT	GROWING

CH YOU TRY TO GROW SIMILAR SEEDS UNDER TWO OR MORE DIFFERENT SOIL CONDITIONS.

FOR SURVIVAL OF LIVING PLANTS.

ESSENTIAL FOR SURVIVAL OF LIVING PLANTS, BY PLANTING BEAN SEEDS IN SOIL, WATERING AND SOME WITH INSUFFICIENT WATER.

SUNLIGHT.

S NEED SUNLIGHT, BY SPROUTING POTATO EYES IN LIGHT AND DARK, CAUSING THOSE TO GROW.

GROW.

HEAT TO GROW, BY TRYING TO SPROUT SOME SEEDS IN A WARM PLACE AND OTHERS IN A COOL PLACE, SUBJECT TO LIMITS OF THEIR ENVIRONMENT.

WATER.

ANT NEEDS WATER, BY GROWING PLANTS IN THE CLASSROOM AND BY WATERING SOME AND NOT

OS LIGHT.

ANT NEEDS LIGHT BY GROWING SOME PLANTS IN LIGHT AND OTHERS IN DARK.

WHICH A PLANT THAT IS NOT GREEN WILL GROW.

0203560002	DEMONSTRATE CONDITIONS UNDER WHICH PLANT THAT IS NOT BREAD AND TOAST WETTED WITH DIFFERENT AMOUNTS OF WATER	GREEN CAUSIN
0203560003	KNOW THAT PLANTS FLOODED WITH WATER NOT ONLY HAVE TOO SOIL, AND IN A SENSE ARE DROWNING IN WATER.	MUCH W
0203560004	DESCRIBE THAT PLANTS FLOODED WITH WATER NOT ONLY HAVE THE SOIL, AND IN A SENSE ARE DROWNING IN WATER.	TOO MU
0203560005	KNOW THAT GROWING PLANTS MAY DIE FROM TOO MUCH WATER AS	WELL A
0203560006	DEMONSTRATE THAT PLANTS MAY DIE FROM TOO MUCH WATER, OR RADISH PLANTS, NOT WATERING ONE, WETTING ONE AND	FROM C DROWNI
0203560007	KNOW THE EFFECT OF SUNLIGHT AND LACK OF SUNLIGHT ON	GREEN
0203560008	DEMONSTRATE THE EFFECT OF SUNLIGHT AND LACK OF SUNLIGHT ON GRE PAPER FOR TWO DAYS, AND THEN OBSERVING THE PALE COLOR OF THE CO	ON GRE THE CO

0204560	PLANTS (NEEDS)	
0204560001	KNOW WHY GREEN PLANTS NEED THE RIGHT CONDITIONS FOR	GROWTH
0204560002	WHEN GIVEN FIVE SEEDS, GROW AND OBSERVE ENVIRONMENTAL	CONDIT
0204560003	DEMONSTRATE THAT LIGHT IS NECESSARY FOR GROWTH OF A SUNLIGHT, TO LIGHT FROM AN ELECTRIC LAMP, AND TO	GREEN DARKNE
0204560004	DEMONSTRATE THE CONDITIONS UNDER WHICH GREEN PLANTS CONDITIONS OF SOIL, WATER AND LIGHT AND COMPARING	WILL G RESULTS
0204560005	KNOW THAT GREEN PLANTS GET THE MATTER FOR GROWTH FROM	WATER,
0204560006	DESCRIBE THAT LIGHT IS THE SOURCE OF ENERGY FOR GROWING	GREEN

UNDER WHICH PLANT THAT IS NOT
WITH DIFFERENT AMOUNTS OF WATER
GREEN WILL GROW PLACING IN DIFFERENT LOCATIONS FRESH
CAUSING NONGREEN PLANT GROWTH ON SOME.

WITH WATER NOT ONLY HAVE TOO
CROWNING IN WATER. MUCH WATER, BUT ARE NOT GETTING ENOUGH OXYGEN FROM THE

DOED WITH WATER NOT ONLY HAVE TOO MUCH WATER, BUT ARE NOT GETTING ENOUGH OXYGEN FROM
ARE DROWNING IN WATER.

MAY DIE FROM TOO MUCH WATER AS WELL AS FROM COMPLETE LACK OF WATER.

MAY DIE FROM TOO MUCH WATER, OR FROM COMPLETE LACK OF WATER, BY USING THREE POTS OF
ING ONE, WETTING ONE AND DROWNING ONE, NOTING OUTCOME.

IGHT AND LACK OF SUNLIGHT ON GREEN LEAVES.

OF SUNLIGHT AND LACK OF SUNLIGHT ON GREEN LEAVES, BY COVERING SOME LEAVES WITH CARBON
THEN OBSERVING THE PALE COLOR OF THE COVERED LEAVES.

ED THE RIGHT CONDITIONS FOR GROWTH.

ROW AND OBSERVE ENVIRONMENTAL CONDITIONS OF AT LEAST ONE PLANT.

S NECESSARY FOR GROWTH OF A GREEN PLANT BY SUBJECTING GROWING RADISH SEEDLINGS TO
AN ELECTRIC LAMP, AND TO DARKNESS, CAUSING MOST TO LEAST GROWTH.

NS UNDER WHICH GREEN PLANTS WILL GROW BEST, BY GROWING SEEDS UNDER EIGHT DIFFERENT
R AND LIGHT AND COMPARING RESULTS.

ET THE MATTER FOR GROWTH FROM WATER, SOIL, AND AIR.

SE OF ENERGY FOR GROWING GREEN PLANTS.

0204560007	CONTROL THE ENVIRONMENT OF A GROWING PLANT AND OBSERVE WHAT HAPPENS WHEN THE ENVIRONMENT IS CHANGED.
0204560008	CONSTRUCT THREE TESTS OF GROWING CONDITIONS.
0204560009	STATE THREE THINGS NECESSARY FOR A GROWING LAND PLANT.
0204560010	KNOW THAT MINERALS IMPORTANT FOR PLANT GROWTH ARE FOUND IN SOIL.
0204560011	KNOW THAT USING ENERGY FROM LIGHT, GREEN PLANTS MAKE THEIR OWN FOOD IN THEIR ENVIRONMENT.
0204560012	DEMONSTRATE THAT THE AMOUNT AND KIND OF LIGHT ENERGY RECEIVED AFFECTS PLANT GROWTH.
0204560013	UNDERSTAND HOW THE ACTION OF DECAY RETURNS TO THE SOIL COMPOUNDS USED BY PLANTS.
0204560014	DEMONSTRATE WAYS IN WHICH A GREEN PLANT MAY BE DEPENDENT UPON ANIMALS.
0204560015	DEMONSTRATE, IN A MULTIPLE CHOICE TEST, KNOWLEDGE OF PLANTS USING CARBOHYDRATES AND PROTEINS.

0205560 PLANTS (NEEDS)

0205560001	KNOW THAT GREEN PLANTS CAN DIRECTLY TRAP AND STORE THE ENERGY OF LIGHT.
0205560002	KNOW THAT LIGHT IS ESSENTIAL FOR THE MANUFACTURE OF CARBOHYDRATES.
0205560003	KNOW THAT THE CAPTURE OF RADIANT ENERGY BY GREEN PLANTS IS BASIC TO LIFE.
0205560004	DESCRIBE THE PRESENCE OF LIGHT NECESSARY FOR PHOTOSYNTHESIS.

ING PLANT AND OBSERVE WHAT HAPPENS TO IT WHEN THE ENVIRONMENTAL CONDITIONS ARE
CONDITIONS.

A GROWING LAND PLANT.

PLANT GROWTH ARE FOUND IN SOIL WATER.

, GREEN PLANTS MAKE THEIR OWN FOODS FROM INORGANIC SUBSTANCES IN THE

KIND OF LIGHT ENERGY RECEIVED AFFECTS THE ABILITY OF GREEN PLANTS TO MAKE

AY RETURNS TO THE SOIL COMPOUNDS ESSENTIAL TO GROWING PLANTS.

PLANT MAY BE DEPENDENT UPON ANIMALS IN ITS ENVIRONMENT.

TEST, KNOWLEDGE OF PLANTS USING CARBON DIOXIDE AND NITROGEN TO MAKE SUGARS

LY TRAP AND STORE THE ENERGY OF SUNLIGHT.

THE MANUFACTURE OF CARBOHYDRATES BY CELLS IN A GREEN LEAF.

ENERGY BY GREEN PLANTS IS BASIC TO THE GROWTH AND MAINTENANCE OF ALL LIVING

PHOTOSYNTHESIS TO FORM STARCH IN GREEN PLANTS.

0205560005

INFER THE SOURCES OF THE CARBON, OXYGEN, AND HYDROGEN

0205560006

DEMONSTRATE STARCH ABSENT IN LEAF 1/2 COVERED FOR 3
WITH HEATED ALCOHOL AND TEST WITH IODINE SOLUTION.

CARBON, OXYGEN, AND HYDROGEN

A GREEN PLANTS USES IN PHOTOSYNTHESIS.

IN LEAF 1/2 COVERED FOR 3
ST WITH IODINE SOLUTION.

DAYS, PRESENT IN UNCOVERED HALF. REMOVE CHLOROPHYLL

0206565 PLANTS (NONGREEN)

0206565001 KNOW THAT NONGREEN PLANTS ARE INTERDEPENDENT WITH OTHER
CONDITIONS FAVORABLE TO SURVIVAL.

0206565002 KNOW THAT BACTERIA, PLANTS WITHOUT CHLOROPHYLL, DEPEND

0206565003 KNOW NONGREEN PLANTS GROW AND REPRODUCE RAPIDLY IN A

IS ARE INTERDEPENDENT WITH OTHER ORGANISMS FOR THEIR FOOD AND WITH THEIR ENVIRONMENT FOR SURVIVAL.

TS WITHOUT CHLOROPHYLL, DEPEND ON OTHER ORGANISMS FOR THEIR FOOD.

W AND REPRODUCE RAPIDLY IN A FAVORABLE ENVIRONMENT.

0200570 PLANTS (PARTS)
0200570001 KNOW THE PARTS OF A PLANT AS ROOT, STEM, LEAF, FLOWER,
0200570002 IDENTIFY PARTS OF THE PLANT AS ROOT, STEM LEAF, FLOWER,

0201570 PLANTS (PARTS)
0201570001 DESCRIBE THE PROPERTIES OF A PLANT OR PART OF A PLANT.

0203570 PLANTS (PARTS)
0203570001 KNOW THE DIFFERENT PARTS OF A FLOWER AS PETALS, STAMENS,
0203570002 NAME PARTS OF A FLOWER, AS PETALS, STAMENS, POLLEN,
0203570003 IDENTIFY DIFFERENT PARTS OF A FLOWER BY OBSERVING WITH
0203570004 KNOW THE DIFFERENCE BETWEEN PARTS OF A PLANT THAT LOOK
0203570005 DISTINGUISH BETWEEN PARTS OF A PLANT THAT LOOK GREEN
0203570006 KNOW THAT THE GREEN COLOR IN THE LEAVES CAN BE REMOVED.
0203570007 DEMONSTRATE THAT GREEN COLOR IN THE LEAVES CAN BE
CAUSING ALCOHOL TO TURN GREEN THAT NO COLOR OCCURS

0204570 PLANTS (PARTS)

ROOT, STEM, LEAF, FLOWER, AND SEED.

ROOT, STEM LEAF, FLOWER, AND SEED.

PLANT OR PART OF A PLANT.

FLOWER AS PETALS, STAMENS, POLLEN, PISTIL, AND OVULES.

PETALS, STAMENS, POLLEN, PISTIL, AND OVULES.

FLOWER BY OBSERVING WITH A MAGNIFYING GLASS.

PARTS OF A PLANT THAT LOOK GREEN (LEAVES) AND PARTS THAT DO NOT LOOK GREEN (ROOTS).

PLANT THAT LOOK GREEN (LEAVES) AND PARTS THAT DO NOT LOOK GREEN (ROOTS).

THE LEAVES CAN BE REMOVED.

THE LEAVES CAN BE REMOVED BY SOAKING GREEN LEAVES IN WARMED ALCOHOL
THAT NO COLOR OCCURS WHEN ROOTS ARE TREATED IN SAME WAY.

0204570001

MAKE MODELS AND DIAGRAMS OF DIFFERENT PLANT STRUCTURES, BASI FE
ACTUAL PLANTS.

0204570002

AFTER STUDYING DIAGRAMS OF VARIOUS PLANTS, DESCRIBE THE STRU OL

0205570

PLANTS (PARTS)

0205570001

CONSTRUCT 'RUBBING' OF LEAF. PLACE LEAF, FACE DOWN UNDER LA

0205570002

DESCRIBE THAT LEAF SKELETON IS MADE OF CELLULOSE AND GIVES MA

FERENT PLANT STRUCTURES, BASING THE MODELS ON OBSERVATIONS THEY HAVE MADE OF
OUS PLANTS, DESCRIBE THE STRUCTURE AND PARTS OF A PLANT.

LACE LEAF, FACE DOWN UNDER PAPER, RUB CRAYON OVER OUTLINE OF LEAF.
MADE OF CELLULOSE AND GIVES LEAF STRENGTH AND STIFFNESS.

0202575 PLANTS (ROOTS)

0202575001 KNOW THAT GROWING SEEDS FORM ROOTS THAT GROW DOWNWARD TOWARD

0202575002 DEMONSTRATE THAT GROWING SEEDS FORM ROOTS THAT GROW DOWNWARD
GLASS CONTAINERS IN DIFFERENT POSITIONS.

0203575 PLANTS (ROOTS)

0203575001 KNOW THE DIFFERENCE BETWEEN ROOT HAIRS ON THE MAIN ROOT OF A G
FOOD MARKET.

0203575002 IDENTIFY ROOT HAIRS ON THE MAIN ROOT OF A GROWING RADISH PLANT,
OBSERVING WITH A MAGNIFYING GLASS.

0204575 PLANTS (ROOTS)

0204575001 KNOW THAT PLANTS TAKE WATER THROUTH THEIR ROOTS.

0204575002 DEMONSTRATE THAT AS BEAN SEEDS SPROUT, ROOTS GROW DOWNWARD
BETWEEN MOIST BLOTING PAPER AND SIDES OF GLASS JARS AND BY PLAC

ROOTS THAT GROW DOWNWARD TOWARDS THE EARTH.

SEEDS FORM ROOTS THAT GROW DOWNWARD TOWARDS THE EARTH, BY PLACING GROWING SEEDS IN
DIFFERENT POSITIONS.

ROOT HAIRS ON THE MAIN ROOT OF A GROWING RADISH PLANT, AND ON A RADISH PLANT FROM A
MAIN ROOT OF A GROWING RADISH PLANT, AND ON A RADISH PLANT FROM A FOOD MARKET,
GLASS.

THROUGH THEIR ROOTS.

SEEDS SPROUT, ROOTS GROW DOWNWARD AND LEAVES GROW UPWARD BY SPROUTING SEEDS
AND SIDES OF GLASS JARS AND BY PLACING THE JARS IN DIFFERENT POSITIONS.

0200580	PLANTS (SEEDS)	
0200580001	KNOW THAT AN ASSORTMENT OF BEAN SEEDS CAN BE ORDERED	ACCORD
0200580002	ORDER AN ASSORTMENT OF BEAN SEEDS ACCORDING TO THEIR	LIKENE
0200580003	KNOW THAT BEAN SEEDS WILL SPROUT AND EXHIBIT DIFFERENCES IN THE	
0200580004	KNOW DIFFERENT WAYS TO SPROUT SEEDS, BY PLACING SOME ON A MOIS	
	SOME IN SOIL, AND SOME IN WATER.	
0200580005	DEMONSTRATE DIFFERENT WAYS TO SPROUT SEEDS, BY PLACING	SOME O
	GLASS, SOME IN SOIL, AND SOME IN WATER.	
0200580006	DEMONSTRATE THAT BEAN SEEDS WILL SPROUT AND EXHIBIT	DIFFER
	OF SEEDS AND OBSERVING THEIR GROWTH.	
0200580007	KNOW THAT WHEN SEEDS ARE PLANTED, THEY WILL SPROUT AND	GROW I
0200580008	DESCRIBE THAT WHEN SEEDS ARE PLANTED THEY WILL SPROUT	AND GRO
	CAME.	
0200580009	DESCRIBE A GROWING SEED PLANT BY OBSERVING A COMPLETE	DANDEL
0201580	PLANTS (SEEDS)	
0201580001	GIVEN SOME SEEDS, GROW A PLANT.	
0201580002	KNOW THAT A NEW PLANT SPROUTS FROM A DRIED LIMA BEAN;	WHEN IT
	SEVERAL DAYS.	
0201580003	OBSERVE DEVELOPMENT OF SEED. DRAW DIAGRAMS AND	CONSTRU
	DEVELOPMENTAL STAGES OF GROWTH FOR PLANTS.	
0201580004	DEMONSTRATE THAT A NEW PLANT SPROUTS FROM A DRIED LIMA	BEAN WH
	SEVERAL DAYS.	

BEAN SEEDS CAN BE ORDERED ACCORDING BY LIKENESSES OR DIFFERENCES.

SEEDS ACCORDING TO THEIR LIKENESSES OR DIFFERENCES.

ROUT AND EXHIBIT DIFFERENCES IN THEIR SPROUTS.

T SEEDS, BY PLACING SOME ON A MOIST SPONGE, SOME BETWEEN BLOTTING PAPER AND GLASS, WATER.

TO SPROUT SEEDS, BY PLACING SOME ON A MOIST SPONGE, SOME BETWEEN BLOTTING PAPER AND WATER IN WATER.

WILL SPROUT AND EXHIBIT DIFFERENCES IN THEIR SPROUTS, BY PLANTING VARIOUS KINDS GROWTH.

NTED, THEY WILL SPROUT AND GROW INTO THE SAME KIND OF PLANT FROM WHICH THEY CAME.

PLANTED THEY WILL SPROUT AND GROW INTO THE SAME KIND OF PLANT FROM WHICH THEY

T BY OBSERVING A COMPLETE DANDELION PLANT, AND DISCUSSING PARTS OF THE PLANT.

NT.

S FROM A DRIED LIMA BEAN, WHEN IT HAS BEEN SOAKED IN WATER AND KEPT MOIST FOR

DRAW DIAGRAMS AND CONSTRUCT VIEWER TO OBSERVE GERMINATION AND TH FOR PLANTS.

SPROUTS FROM A DRIED LIMA BEAN WHEN IT HAS BEEN SOAKED IN WATER AND KEPT MOIST FOR

0201580005 PREPARE EXPERIMENT IN WHICH YOU TRY TO GROW SIMILIAR SEEDS UND

0202580 PLANTS (SEEDS)

0202580001 IDENTIFY CONE, SCALE, AND SEED, BY OBSERVING MATURE PINE CONES.

0202580002 KNOW THAT PARTS OF A MATURE PINE CONE---CONE, SCALE, AND SEED.

0202580003 NAME PARTS AS CONE, SCALE, AND SEED ON MATURE PINE CONES.

0202580004 DISTINGUISH BETWEEN GROWING BEAN AND CORN SEEDLINGS, BY OBSERVING

0202580005 KNOW THAT GRASS PLANTS GROW FROM GRASS SFEDS, ILLUSTRAT

HEREDITY.

0202580006 DEMONSTRATE THAT GRASS PLANTS GROW FROM GRASS SEEDS, ILLUSTRAT

HEREDITY.

0202580007 DEMONSTRATE THAT EACH ORGANISM GIVES RISE TO ITS OWN KIND, BY

0202580008 KNOW THE DIFFERENCES BETWEEN GROWING BEAN AND CORN SEEDLINGS

0202580009 IDENTIFY THE NEW PLANT AND FOOD FOR GROWTH IN LIMA BEANS AND

0204580 PLANTS (SEEDS)

0204580001 KNOW THAT SEEDS TRANSMIT THE CHARACTERISTICS OF THE PARENT PL

0204580002 DEMONSTRATE THAT GROWING PLANTS EXERT FORCE BY SPROUTING SEEDS BE

BE PRIED APART.

TRY TO GROW SIMILIAR SEEDS UNDER TWO OR MORE DIFFERENT SOIL CONDITIONS.

BY OBSERVING MATURE PINE CONES.

NE CONE---CONF, SCALE, AND SEED.

SEED ON MATURE PINE CONES.

AN AND CORN SEEDLINGS, BY OBSERVING THEIR CHARACTERISTICS.

OM GRASS SEEDS, ILLUSTRATING THAT AN ORGANISM IS THE PRODUCT OF ITS

GROW FROM GRASS SEEDS, ILLUSTRATING THAT AN ORGANSIM IS THE PRODUCT OF ITS

GIVES RISE TO ITS OWN KIND, BY PLANTING BEAN AND CORN SEEDS.

ROWING BEAN AND CORN SEEDLINGS.

D FOR GROWTH IN LIMA BEANS AND CORN SEEDS WHICH HAVE BEEN SOAKED IN WATER.

CHARACTERISTICS OF THE PARENT PLANTS.

ERIC FORCE BY SPROUTING SEEDS BETWEEN TWO GLASS PLATES CAUSING GLASS PIECES TO

0204580003

DEMONSTRATE THAT SPROUTING SEEDS EXERT FORCE BY FILLING
PUTTING CONTAINER IN DARK FOR FEW DAYS UNTIL SEEDS

PAGE 178

SEEDS EXERT FORCE- BY FILLING SMALL BOTTLE WITH DRY BEANS ADDING WATER AND CORK AND
FOR FEW DAYS UNTIL SEEDS SPROUT, PUSHING OUT CORK.

0200585 PLANTS (TREES)

0200585001 KNOW THAT TREES HAVE SIMILARITIES WITH, AND DIFFERENC

0200585002 DESCRIBE THAT TREES HAVE SIMILARITIES WITH, AND
OF SEEDS, FRUITS, AND OTHER TREE PARTS.

0206585 PLANTS (TREES)

0206585001 DEMONSTRATE TREE GRAFTING IN EARLY SPRING. PREPARE A
CLOTH AND WAX.

SIMILARITIES WITH, AND DIFFERENCES FROM OTHER PLANTS.

THE SIMILARITIES WITH, AND DIFFERENCES FROM OTHER PLANTS, BY OBSERVING A COLLECTION OF OTHER TREE PARTS.

ING IN EARLY SPRING. PREPARE AND GRAFT 2 RELATED FRUIT TREE BRANCHES, COVER GRAFT WITH

0200590 PLANTS (WATER)

0200590001 KNOW THAT SOME PLANTS GROW IN WATER.

0200590002 DESCRIBE THAT SOME PLANTS GROW IN WATER, BY OBSERVING AND SIMILARITIES WITH, AND DIFFERENCES FROM, OTHER PLANTS. AQUARIUM PLANTS

0200590003 KNOW THAT SEAWEEDS DIFFER FROM OTHER PLANTS IN THAT THEY LACK SPECIAL PLANT CLASS (ALGAE). FRESHWATER PLANTS

0200590004 DESCRIBE THAT SEAWEEDS DIFFER FROM OTHER PLANTS IN THAT THEY BELONG TO A SPECIAL PLANT CLASS (ALGAE). FRESHWATER PLANTS

W IN WATER.

GROW IN WATER, BY OBSERVING AQUARIUM PLANTS AND BY DISCUSSING THE PARTS OF PLANTS
D DIFFERENCES FROM, OTHER PLANTS.

FROM OTHER PLANTS IN THAT THEY LACK ROOTS, STEMS, LEAVES, AND FLOWERS, AND BELONG TO A
E).

FFER FROM OTHER PLANTS IN THAT THAT THEY LACK ROOTS, STEMS, LEAVES AND FLOWERS, AND
CLASS (ALGAE).

0202595

POLLUTION (WATER)

0202595001

DEMONSTRATE HOW WATER POLLUTION IS CAUSED AND PREDICT
EXIST.

PAGE 181

ION IS CAUSED AND PREDICT

WHAT WILL HAPPEN IF THE POLLUTION FACTORS CONTINUE TO

0202600

POLLUTION (WATER AND AIR)

0202600001

DIVIDE INTO GROUPS AND GATHER INFORMATION ON A
PAPER GIVING THEIR INFERENCES ON HOW ONE OF TH

I
O

PAGE 182

INFORMATION ON AT LEAST
ON HOW ONE OF THE

FIVE CAUSES OF AIR OR WATER POLLUTION AND WRITE A SHORT
POLLUTION FACTORS CAN BE ELIMINATED.

0204605 RELATIVE POSITIONS OF STATIONARY AND MOVING OBJECTS

0204605001 RECOGNIZE WHETHER OR NOT AN OBJECT HAS MOVED RELATIVE

0204605002 TELL WHICH WAY AN OBJECT HAS MOVED RELATIVE TO YOU AND

0204605003 DESCRIBE THE POSITION OF AN OBJECT RELATIVE TO OTHER

0204605004 DESCRIBE DIRECTION OF MOVEMENT THAT AN OBJECT HAS AS
THAT OBSERVER. DESCRIPTION COULD INCLUDE A REFERENCE

0204605005 RECOGNIZE EVIDENCE OF MOTION IN MOVIES OR FLIP-BOOK
THAT HAVE APPARENT MOTION. NOTE CHANGES IN POSITION

0204605006 RECOGNIZE WHETHER OR NOT AN OBJECT HAS MOVED RELATIVE

0204605007 GIVEN ILLUSTRATIONS OF TWO OBJECTS OR SYSTEMS HAVING
SYSTEM IS MOVING FASTER AND WHICH IS MOVING SLOWER,

0204605008 DESCRIBE THE POSITION OF AN OBJECT AS SEEN BY ANOTHER

IONARY AND MOVING OBJECTS

PAGE 183

N OBJECT HAS MOVED RELATIVE TO ANOTHER OBJECT (I.E., A REFERENCE OBJECT).

AS MOVED RELATIVE TO YOU AND A REFERENCE OBJECT.

N OBJECT RELATIVE TO OTHER OBJECTS.

MENT THAT AN OBJECT HAS AS
N COULD INCLUDE A REFERENCE

SEEN BY ANOTHER OBSERVER RELATIVE TO THE POSITION OF
TO ANOTHER OBJECT OR SYSTEM.

ON IN MOVIES OR FLIP-BOOK
NOTE CHANGES IN POSITION

PICTURES BY REPORTING DIFFERENTIAL SPEEDS OF OBJECTS
RELATIVE TO REFERENCE OBJECTS.

N OBJECT HAS MOVED RELATIVE TO ANOTHER OBJECT (I.E., A REFERENCE OBJECT).

OBJECTS OR SYSTEMS HAVING
D WHICH IS MOVING SLOWER.

DIFFERENT RATES OF MOTION, RECOGNIZE WHICH OBJECT OR
(RELATIVE MOTION CONCEPT).

N OBJECT AS SEEN BY ANOTHER PERSON.

0202610 REPRODUCTION

0202610001 CLASSIFY ANIMAL MOTHERS INTO THESE TWO GROUPS MOTHERS WHO HAVE T

0202610002 MATCH ANIMAL PARENTS TO THEIR OFFSPRING. R

0202610003 IDENTIFY THE TERMS MALE, FEMALE, PARENT, AND OFFSPRING WHEN DISC AL

0205610 REPRODUCTION

0205610001 KNOW THAT ORGANISMS REPRODUCE OTHER ORGANISMS LIKE THEMSELVES E

0206610 REPRODUCTION

0206610001 KNOW THAT SOME PLANTS CAN REPRODUCE NEW PLANTS FROM A PART OF T PR

0206610002 KNOW THAT AN EMBRYO CONTAINS THE BEGINNING OF A NEW ORGANISM T

THESE TWO GROUPS MOTHERS WHO HAVE LIVING BABIES AND MOTHERS WHO LAY EGGS.

OR OFFSPRING.

MALE, PARENT, AND OFFSPRING WHEN DISCUSSING MEMBERS OF ANIMAL FAMILIES.

THE OTHER ORGANISMS LIKE THEMSELVES.

PRODUCE NEW PLANTS FROM A PART OF THEMSELVES.

THE BEGINNING OF A NEW ORGANISM.

0200615 REPTILES (EXTINCT)

0200615001 KNOW THAT DINOSAURS ARE NO LONGER IN EXISTENCE, BUT ARE STILL HERE

0200615002 DESCRIBE DINOSAURS BY OBSERVING PICTURES OR MODELS AND DRAWING PICTURES OF PRESENT DAY REPTILES.

0203615 REPTILES (EXTINCT)

0203615001 TELL WHAT EXTINCT MEANS.

0203615002 TELL WHY DINOSAURS ARE EXTINCT.

0205615 REPTILES (EXTINCT)

0205615001 RESEARCH HOW CHANGES OF ENVIRONMENT AFFECTED DINOSAURS. NAME

0205615002 KNOW THAT FURTHER ADAPTATIONS LED TO DOMINANCE BY THE DINOSAURS. DISAPPEARANCE.

GER IN EXISTENCE, BUT ARE SIMILAR TO PRESENT DAY REPTILES.

G PICTURES OR MODELS AND DISCUSSING THAT THEY NO LONGER EXIST, BUT ARE SIMILAR TO

NMENT AFFECTED DINOSAURS.

LED TO DOMINANCE BY THE DINOSAURS FAILURE TO ADAPY TO CHANGES LED TO THEIR

0201620	SCIENTIFIC METHOD	
0201620001	WITH SERIES OF EXPERIENCES RELATING TO OBSERVATION AND SITUATION.	INFERENCE
0202620	SCIENTIFIC METHOD	
0202620001	KEEP AN ACCURATE RECORD OF OBJECTS USED IN EXPERIMENT	AND THE
0202620002	AFTER COLLECTING INFORMATION ABOUT HOW ORGANISM OF LISTS, NOTES, OR PICTURES.	INTERACTION
0202620003	KEEP AN ACCURATE RECORD OF OBJECTS YOU HAVE OBSERVED	INTERACTION
0202620004	FOLLOWING A QUESTION AND ANSWER PERIOD DEFINING THE MAKE A LIST OF AT LEAST THREE DIFFERENCES BETWEEN AN	DIFFERENCES OBSERVED
0204620	SCIENTIFIC METHOD	
0204620001	KNOW THAT A HYPOTHESIS MUST BE TESTED WITH EVIDENCE.	
0204620002	KNOW THAT A HYPOTHESIS IS BASED ON OBSERVATION AND DESIGN OF THE INVESTIGATION.	ANALYSIS
0204620003	EXPLAIN THE MEANING OF THE WORD HYPOTHESIS.	
0204620004	IN RESPONSE TO A REQUEST TO DO SO, DESCRIBE DESIGNS THAT WOULD BE MODEL CAN BE USED TO EXPLAIN A GIVEN PHENOMENON.	
0204620005	PROVIDED WITH A SERIES OF EXPERIENCES RELATING TO EXAMPLES OF THOSE WHICH ARE OBSERVATIONS AND THOSE	OBSERVATIONS WHICH ARE
0204620006	UNDERSTAND THE USEFULNESS OF THE CONCEPT OF CHANGE,	
0204620007	AFTER OBSERVING A CHANGE IN AN OBJECT UNDER CONTROL FOR THE CHANGE.	PHYSICAL

RELATING TO OBSERVATION AND INFERENCES MAKE OBSERVATION AND INFERENCE ABOUT A

SUBJECTS USED IN EXPERIMENT AND THE RESULTS OF EXPERIMENT.

ABOUT HOW ORGANISMS INTERACT WITH THEIR ENVIRONMENT, RECORD IT IN THE FORMS

SUBJECTS YOU HAVE OBSERVED INTERACTING AT A DISTANCE (MAGNETISM).

PERIOD DEFINING THE DIFFERENCE BETWEEN AN 'OBSERVATION' AND AN 'INFERENCE',
THE DIFFERENCES BETWEEN AN OBSERVATION AND AN INFERENCE WITH 100 PER CENT ACCURACY.

BE TESTED WITH EVIDENCE.

BASED ON OBSERVATION AND ANALYSIS OF OBJECTS AND EVENTS. IT DETERMINES THE

WORD HYPOTHESIS.

DO SO, DESCRIBE DESIGNS THAT WOULD BE APPROPRIATE TO ILLUSTRATE THAT MORE THAN ONE
IN A GIVEN PHENOMENON.

EXPERIENCES RELATING TO 'OBSERVATION' AND 'INFERENCES', SELECT FROM A LIST OF
OBSERVATIONS AND THOSE WHICH ARE INFERENCES WITH 100 PER CENT ACCURACY.

THE CONCEPT OF CHANGE.

AN OBJECT UNDER CONTROLLED PHYSICAL CONDITIONS, ANALYZE AND HYPOTHEZIZE A REASON

0204620008	AFTER OBSERVING A CHANGE IN AN OBJECT UNDER CONTROLLED OBJECT UNDER UNCONTROLLED PHYSICAL CONDITION.	PHYSICAL	OBJECT
0204620009	DESIGN A SIMPLE EXPERIMENT WHICH DEMONSTRATES (INERTIA).	APPLICATION	OF INERTIA
0204620010	DESIGN SIMPLE EXPERIMENT, WHICH DEMONSTRATES APPLICATION OF NEWTON'S IT WITH VARIABLES, DRAW CONCLUSIONS AND MAKE	GENERAL	PRINCIPLES
0204620011	DESIGN THREE EXPERIMENTS WHICH DEMONSTRATE 1. INCREASE OR DECREASE FUNCTION OF TIME (V) (TERMINAL).	DEMONSTRATE	THE EFFECTS
0204620012	DESIGN EXPERIMENT IN WHICH THESE PRINCIPLES OF LEARNING ARE DEMONSTRATED OBSERVATIONS, USING VARIABLES, KEEPING RECORDS, DRAWING CONCLUSIONS	CONCLUSIONS	FROM OBSERVATIONS
0204620013	DESIGN AN EXPERIMENT IN WHICH PRINCIPLES OF LEARNING ARE DEMONSTRATED FORGETTING, AND RELEARNING.	DEMONSTRATE	THE PRINCIPLES

0205620	SCIENTIFIC METHOD		
0205620001	APPRECIATE THE PROBLEMS THAT INTEREST A SCIENTIST AND	SOME OF	THE PROBLEMS
0205620002	ASSOCIATE SCIENCE WITH EVIDENCE AND REASONING.		
0205620003	DESIGN EXPERIMENT SHOWING RELATIONSHIP BETWEEN TIME IT TEMPERATURE. USE THESE STEPS. 1. HYPOTHESIS, 2.	TAKES FOR	DESIGNING
0205620004	EXAMINE INFERENCES ON WHICH A THEORY IS BUILT AND	REALIZE	THE THEORY
0205620005	IN RESPONSE TO A REQUEST TO DO SO, DESCRIBE DESIGNS THAT WOULD BE MODEL CAN BE USED TO EXPLAIN A GIVEN PHENOMENON.	SO, GIVE	THE DESIGN
0205620006	CONSTRUCT A DIAGRAM WITH LABELS TO DEMONSTRATE THAT GIVEN MODEL.	MORE THAN	ONE MODEL

OBJECT UNDER CONTROLLED PHYSICAL CONDITION, HYPOTHESIZE WHAT WILL HAPPEN TO THE
CAL CONDITION.

H DEMONSTRATES APPLICATION OF NEWTON'S FIRST LAW OF MOTION (LAW OF

DEMONSTRATES APPLICATION OF NEWTON'S BASIC LAWS BY DEVELOPING HYPOTHESIS. TEST
IONS AND MAKE GENERALIZATIONS.

DEMONSTRATE 1. INCREASE OR DECREASE OF SPEED OF AN OBJECT. 2. VELOCITY AS

E PRINCIPLES OF LEARNING ARE DEMONSTRATED FORMULATING AN HYPOTHESIS FROM
KEEPING RECORDS, DRAWING CONCLUSIONS AND MAKING GENERALIZATIONS.

PRINCIPLES OF LEARNING ARE DEMONSTRATED MEMORIZATION, REACTIVE INHIBITION,

INTEREST A SCIENTIST AND SOME OF THE METHODS HE USES IN TRYING TO SOLVE THEM.

AND REASONING.

IONSHIP BETWEEN TIME IT TAKES FOR SUBSTANCE TO DISSOLVE IN WATER AND
1. HYPOTHESIS, 2. DESIGN, 3. RECORD OF OBSERVATIONS, 4. CONCLUSIONS.

THEORY IS BUILT AND REALIZE THAT EVERY THEORY MUST BE TESTED BY EVIDENCE.

SO, DESCRIBE DESIGNS THAT WOULD BE APPROPRIATE TO ILLUSTRATE THAT MORE THAN ONE
GIVEN PHENOMENON.

TO DEMONSTRATE THAT MORE THAN ONE MODEL CAN SOMETIMES BE USED TO EXPLAIN A

0206620	SCIENTIFIC METHOD	
0206620001	KNOW THAT ACHIEVEMENT OF A GOAL INVOLVES INSIGHT AND	REQUIRE IN
0206620002	KNOW THAT DISCOVERY OF NEW PROCESSES AND PRODUCTS EARLIER TECHNOLOGICAL ADVANCES.	DEPENDS ESS
0206620003	KNOW THAT INVENTION OF NEW MATERIALS DEPENDS ON	UNDERSTRIA
0206620004	KNOW THAT A CONCEPT IS ARRIVED AT ONLY AFTER CAREFUL AND EXTENSIVE	AT
0206620005	RECOGNIZE THAT THE HABIT OF SEEKING RELATIONSHIPS	BETWEEN KIN
0206620006	GAIN FURTHER INSIGHT INTO REFINING PLANS FOR	INVESTIGINO
0206620007	KNOW THAT A SCIENTIST IN HIS INVESTIGATIONS USES THE	PROCESS VES
0206620008	KNOW THAT BY STUDYING AND APPLYING CONCEPTS, SCIENTISTS	HAVE FOR INO
0206620009	KNOW THAT CONCEPTS ARE A BASE FOR DRAWING INFERENCES.	OR
0206620010	KNOW THAT SEARCHING FOR HIDDEN LIKENESSES LEADS TO	CONCEPTS LI
0206620011	KNOW THAT TECHNOLOGISTS APPLY CONCEPTS.	ON
0206620012	DEMONSTRATE THE TESTING OF HYPOTHESIS, INDICATING THE RESULTS.	WHETHER THI

INVOLVES INSIGHT AND REQUIRES MAKING OF DEFINITE PLANS.
ESSES AND PRODUCTS DEPENDS ON UNDERSTANDING CONCEPTS IN SCIENCE, AS WELL AS
RIALS DEPENDS ON UNDERSTANDING BASIC CONCEPTS OF SCIENCE.
AT ONLY AFTER CAREFUL AND EXTENSIVE INVESTIGATIONS AND EXPERIMENTS.
ING RELATIONSHIPS BETWEEN CONCEPTS CAN LEAD TO NEW DISCOVERIES.
ING PLANS FOR INVESTIGATIONS.
ESTIGATIONS USES THE PROCESSES OF LEARNING.
ING CONCEPTS, SCIENTISTS HAVE FOUND A MEANS FOR CONQUERING MANY DISEASES.
OR DRAWING INFERENCES.
-IKENESSES LEADS TO CONCEPTS.
ONCEPTS.
THESIS, INDICATING WHETHER OR NOT HE ACCEPTS HIS OWN HYPOTHESIS, BASED ON

0202625 SOIL

0202625001 EXPLAIN DIFFERENT WAYS ROCK IS BROKEN DOWN TO BECOME SOIL.

0202625002 GIVEN A CROSS-SECTION OF SOILS, RECOGNIZE LAYERS AS TOPSOIL

0202625003 DESCRIBE THE THINGS WE FIND IN DARK TOPSOIL THAT ARE NOT FOUND

0202625004 — TELL THE THINGS SOIL MUST HAVE TO MAKE PLANTS GROW WELL.

0202625005 TELL HOW SOIL HELPS ANIMALS.

0202625006 TELL WAYS THAT ANIMALS HELP TO MAKE GOOD SOIL.

0202625007 TELL THE WAYS PLANTS HELP MAKE GOOD SOIL.

0203623 SOIL

0203625001 EXPLAIN 'THE EARTH'S GREATEST TREASURES ARE IN THE SOIL.'

0203625002 DO RESEARCH IN LIBRARY AND IN COMMUNITY TO FIND OUT HOW TO CON

0203625003 KNOW THAT DIFFERENT KINDS OF SOILS HOLD VARYING AMOUNTS OF WATER

0203625004 DEMONSTRATE DIFFERENT KINDS OF SOILS HOLDING VARYING AMOUNTS OF WATER
POURING EQUAL AMOUNTS OF WATER OBSERVING DIFFERENT AMOUNT

0203625005 KNOW THAT HUMUS SOIL HOLDS MORE WATER THAN GARDEN SOIL AND TH

0203625006 IDENTIFY THAT HUMUS SOIL HOLDS MORE WATER THAN GARDEN SOIL A

CK IS BROKEN DOWN TO BECOME SOIL.

SOILS, RECOGNIZE LAYERS AS TOPSOIL, SUBSOIL, AND BEDROCK,

AND IN DARK TOPSOIL THAT ARE NOT FOUND IN SAND AND SUBSOIL.

HAVE TO MAKE PLANTS GROW WELL.

LS.

LP TO MAKE GOOD SOIL.

MAKE GOOD SOIL.

TEST TREASURES ARE IN THE SOIL.

GO IN COMMUNITY TO FIND OUT HOW TO CONSERVE SOIL.

OF SOILS HOLD VARYING AMOUNTS OF WATER.

WAYS OF SOILS HOLDING VARYING AMOUNTS OF WATER BY PLACING DIFFERENT TYPE INTO TIN CAN
WATER OBSERVING DIFFERENT AMOUNTS OF WATER PASSING THROUGH SOIL.

HAS MORE WATER THAN GARDEN SOIL AND THAT () SOIL HOLDS MORE WATER THAN SAND.

HOLDS MORE WATER THAN GARDEN SOIL AND THAT GARDEN SOIL HOLDS MORE WATER THAN SAND.

0203625007	KNOW THAT GARDEN SOIL CONTAINS WATER, A LIQUID.	
0203625008	DEMONSTRATE THAT GARDEN SOIL CONTAINS A LIQUID (WATER) DROPS OF LIQUID TO COLLECT ON THE INSIDE OF THE POT.	BY HEA
0203625009	KNOW THAT GARDEN SOIL CONTAINS AIR.	
0203625010	DEMONSTRATE THAT GARDEN SOIL CONTAINS AIR, BY POURING FROM THE SOIL UP THROUGH THE WATER AND OUT INTO THE AIR.	WATER
0203625011	KNOW THAT GARDEN SOIL CONTAINS MATERIALS THAT WILL PASS	THROUGH
0203625012	DEMONSTRATE THAT DISSOLVED MATERIALS IN WATER-SOIL COLLECTED THROUGH FILTER INTO A SHALLOW GLASS PAN,	MIXTUR ALLOWI
0203625013	KNOW THAT THE SUBSTANCES LEFT AFTER EVAPORATION OF	WATER-
0203625014	NAME, AS MINERALS, THE SUBSTANCES LEFT FROM EVAPORATION	OF THE
0203625015	KNOW THAT DISSOLVED MATERIALS IN THE WATER-SOIL MIXTURE	CAN BE
0203625016	DEMONSTRATE THAT SOIL CONTAINS MATERIALS THAT WILL PASS POURING THE MIXTURE INTO A FILTER, CAUSING THE CLOUDY	THROUGH LIQUID
0204625	SOIL	
0204625001	KNOW THAT MOVING WATER CONTAINS MANY PARTICLES OF SOIL.	
0204625002	DEMONSTRATE SOME SOIL SUBSTANCES DISSOLVE IN WATER BY EVAPORATING WATER THAT PASSES THROUGH LEAVING RESIDUE OF PARTIC	MIXING
0204625003	KNOW THAT WATER CAN CARRY SOIL OVER LONG DISTANCES.	

TER, A LIQUID.

INS A LIQUID (WATER) BY HEATING SOIL IN A COVERED GLASS COOKING POT, CAUSING
INSIDE OF THE POT.

INS AIR, BY POURING WATER SLOWLY OVER SOIL IN A JAR, CAUSING BUBBLES TO RISE
AND OUT INTO THE AIR.

TERIALS THAT WILL PASS THROUGH A FILTER.

LS IN WATER-SOIL MIXTURE CAN BE RECOVERED, BY POURING CLOUDY WATER
ALLOW GLASS PAN, ALLOWING LIQUID TO EVAPORATE, LEAVING SUBSTANCES.

R EVAPORATION OF WATER-SOIL MIXTURE ARE CALLED MINERALS.

LEFT FROM EVAPORATION OF THE WATER-SOIL MIXTURE.

HE WATER-SOIL MIXTURE CAN BE RECOVERED.

TERIALS THAT WILL PASS THROUGH A FILTER, BY MIXING GARDEN SOIL AND WATER THEN
CAUSING THE CLOUDY LIQUID TO PASS THROUGH.

ANY PARTICLES OF SOIL.

DISSOLVE IN WATER BY MIXING SOIL AND DISTILLED WATER, FILTERING MIXTURE,
UGH LEAVING RESIDUE OF PARTICLES.

- 0204625004 KNOW HOW SLOW-MOVING WATER CAN BUILD UP LAND.
- 0204625005 KNOW HOW FLOODING WATERS BUILD UP THE SOIL IN VALLEYS.
- 0204625006 KNOW THAT AS WATER SLOWS DOWN AT THE MOUTH OF A RIVER, IT
- 0204625007 KNOW HOW TREES HOLD SOIL WITH THEIR ROOTS AND THEY PRO
- 0204625008 DEMONSTRATE THAT PLANTS (ROOTS) HOLD SOIL.
- 0204625009 DEMONSTRATE THAT FALLEN LEAVES HELP TO HOLD SOIL BY PLAC
OVER LEAVES CAUSING SAND TO BE WASHED AWAY EXCEPT UNDER LEA

WATER CAN BUILD UP LAND.

PLANTS BUILD UP THE SOIL IN VALLEYS.

PLANTS GROW DOWN AT THE MOUTH OF A RIVER, . IT DEPOSITS SOIL.

PLANTS WITH THEIR ROOTS AND THEY PROVIDE COVER.

(ROOTS) HOLD SOIL.

PLANTS LEAVES HELP TO HOLD SOIL BY PLACING LEAVES ON THIN LAYER OF SAND SPRINKLING WATER
SO IT IS NOT TO BE WASHED AWAY EXCEPT UNDER LEAVES.

0201630

SOLAR SYSTEM

0201630001

DEMONSTRATE THE SUN-MOON-EARTH LIGHT RELATIONSHIP, BY SHINING
CAUSING IT TO REFLECT-ONTO AN EARTH GLOBE.

0202630

SOLAR SYSTEM

0202630001

KNOW THAT THE EARTH REVOLVES IN AN ORBIT AROUND THE SUN.

0202630002

KNOW THAT THE EARTH ROTATES AS IT REVOLVES AROUND THE SUN.

0202630003

DEMONSTRATE THAT THE EARTH ROTATES AS IT REVOLVES AROUND THE SUN,
AND BY REVOLVING THE EARTH GLOBE AS IT IS MOVED AROUND THE LAMP

0202630004

DEMONSTRATE THAT THE EARTH REVOLVES IN AN ORBIT AROUND THE SUN,
THE SUN AND EARTH.

0202630005

KNOW THAT THE LIGHTED-AREA OF THE MOON CHANGES SHAPE, IN RELATION

0202630006

DEMONSTRATE HOW THE LIGHTED AREA OF THE MOON CHANGES SHAPE, I
BY USING AN ORANGE AND A FLASHLIGHT.

0203630

SOLAR SYSTEM

0203630001

STATE THE 'BIG IDEA' OF THIS UNIT---ALL THE PLANETS AND THEIR MO

0203630002

USING A PICTURE SHOWING POSITION OF PLANETS AND THE SUN, TELL WHI
THAN THE EARTH.

0203630003

NAME THE PLANETS IN ORDER OF THEIR DISTANCE FROM THE SUN.

0203630004

EXPLAIN WHY WE THINK THAT EARTH IS THE ONLY PLANET ON-- WHICH WE

0203630005

TELL WHICH PLANET HAS MANY GREEN PLANTS AND MANY ANIMALS.

LIGHT RELATIONSHIP, BY SHINING A FLASHLIGHT BEAM AGAINST WHITE PAPER AND
EARTH GLOBE.

AN ORBIT AROUND THE SUN.

IT REVOLVES AROUND THE SUN.

TES AS IT REVOLVES AROUND THE SUN, BY USING AN EARTH GLOBE AND AN ELECTRIC LAMP,
E AS IT IS MOVED AROUND THE LAMP.

LVES IN AN ORBIT AROUND THE SUN, BY USING A LARGE AND SMALL BALL AS MODELS OF

HE MOON CHANGES SHAPE, IN RELATION TO THE SUN, EARTH, AND MOON POSITIONS.

A OF THE MOON CHANGES SHAPE, IN RELATION TO THE SUN, EARTH, AND MOON POSITIONS
IGHT.

IT---ALL THE PLANETS AND THEIR MOONS GET THEIR ENERGY FROM THE SUN.

N OF PLANETS AND THE SUN, TELL WHICH TWO PLANETS RECEIVE MORE HEAT FROM THE SUN

THEIR DISTANCE FROM THE SUN.

IS THE ONLY PLANET ON WHICH WE COULD LIVE.

N PLANTS AND MANY ANIMALS.

0203630006	TELL DIFFERENCE BETWEEN ROTATION AND REVOLUTION OF THE EARTH	EARTH
0203630007	RECOGNIZE HOW ROTATION AND REVOLUTION CAUSE CHANGES IN EARTH.	LENGTH
0203630008	USE A PLANETARIUM AND KNOWLEDGE GAINED FROM INDIVIDUAL FROM THE SUN, AND ITS REVOLUTION AND ROTATION DETERMINE	STUDY WHAT
0203630009	USING A PICTURE SHOWING POSITION OF PLANETS AND THE SUN, TELL HEAT FROM THE SUN.	
0203630010	DEMONSTRATE THE PATH OF THE MOON, BY USING PEOPLE AS MOON AROUND THE EARTH SO THAT THE STUDENT-MOON ALWAYS	MODEL FACES
0203630011	KNOW THE PATH OF THE MOON IN RELATIONSHIP TO THE SUN	AND E
0203630012	DESCRIBE THAT ONE SIDE OF THE MOON ALWAYS FACES THE WAY THE STUDENT FACES AS THE PATH OF THE MOON IS	EARTH DEMON
0203630013	KNOW THAT ONE SIDE OF THE MOON ALWAYS FACES THE EARTH	BUT D
0203630014	USE A PLANETARIUM AND SHOW HOW AND WHY THE MOON APPEARS	TO CH
0203630015	DESCRIBE SIZE, SHAPE, COLOR, STATE OF MATTER, AND	TEMPER
0203630016	IF GIVEN ACCESS TO TELESCOPE, COMPARE HOW THE MOON LOOKS THROU	
0203630017	USE MATHEMATICAL EQUATION TO SHOW HOW THE MASS OF MOON	AFFECT

0204630 SOLAR SYSTEM

0204630001 GIVEN INFORMATION ON THE PLANETS OF OUR SOLAR SYSTEM ORALL

TATION AND REVOLUTION OF THE EARTH.

REVOLUTION CAUSE CHANGES IN LENGTH OF DAYLIGHT AND TYPE OF SEASON ON GIVEN AREA OF

LEDGE GAINED FROM INDIVIDUAL STUDY TO DISCUSS HOW THE SIZE OF A PLANET, ITS POSITION
LUTION AND ROTATION DETERMINE WHAT IT IS LIKE.

SITION OF PLANETS AND THE SUN, TELL WHICH PLANET HAS MOST NEARLY THE SAME AMOUNT OF

E MOON, BY USING PEOPLE AS MODELS OF THE MOON, EARTH, AND SUN, AND BY MOVING THE
HAT THE STUDENT-MOON ALWAYS FACES THE EARTH.

IN RELATIONSHIP TO THE SUN AND EARTH.

THE MOON ALWAYS FACES THE EARTH BUT DOES NOT ALWAYS FACE THE SUN, BY OBSERVING THE
HE PATH OF THE MOON IS DEMONSTRATED.

MOON ALWAYS FACES THE EARTH BUT DOES NOT ALWAYS FACE THE SUN.

HOW AND WHY THE MOON APPEARS TO CHANGE.

OR, STATE OF MATTER, AND TEMPERATURE OF SUN AND EARTH.

PE, COMPARE HOW THE MOON LOOKS THROUGH A TELESCOPE WITH HOW IT LOOKS TO THE EYE.

TO SHOW HOW THE MASS OF MOON AFFECTS THE WEIGHT OF AN OBJECT ON THE MOON.

0204630002	GIVEN REFERENCE MATERIALS ABOUT PLANETS, TRANSLATE THE	PLANET M
	MODELS.	
0204630003	KNOW THAT SINCE CHANGE IS CONSTANT ALL LIVING THINGS	CHANGE.
	SPACE ARE CONSTANTLY CHANGING.	
0204630004	KNOW THAT AN OBJECT TENDS TO MOVE IN A STRAIGHT LINE.	
0204630005	DEMONSTRATE THAT BALL ATTACHED TO SLACK THREAD WILL ROLL IN STRAI	
	TO TAUT THREAD WILL ROLL IN CURVED LINE WHEN PUSHED.	
0204630006	KNOW THAT THE SHAPE OF ORBITS AND THE POSITION OF BODIES IN SPACE	
0204630007	UNDERSTAND WHY THE MOTION AND PATH OF CELESTIAL BODIES	ARE PRED
0204630008	KNOW THAT IT OCCURED TO NEWTON THAT THE PULL OF	GRAVITAT
0204630009	KNOW THAT THE MOON IS MOVING IN AN ORBIT AROUND THE	EARTH.
0204630010	KNOW THAT THE PULL OF GRAVITATION BETWEEN EARTH AND MOON SHAPES T	
0204630011	KNOW THAT THE MOON TAKES ABOUT 28 DAYS TO MAKE ONE	COMPLETE
0204630012	KNOW WHY THE CHANGING SHAPE OF THE MOON IS DUE TO ITS	MOTION A
0204630013	DEMONSTRATE HOW MOON'S SHAPE SEEMS TO CHANGE BY HOLDING BALL AND	
	CAUSING LIGHTED PART OF BALL TO CHANGE SHAPE.	
0204630014	GIVEN REMOTE LIGHT SOURCE, DESCRIBE THAT SHAPE OF	LIGHTED
	THE BALL CIRCLES BUT DOES NOT APPEAR TO CHANGE TO ANY	OTHER OBS
0204630015	PREDICT THE OBSERVABLE CHANGES IN THE MOON OVER A PERIOD OF 14 OR	
	ORBIT AND THE MOTION OF THE MOON.	

ABOUT PLANETS, TRANSLATE THE PLANET MEASUREMENTS INTO SCALE TERMS AND CONSTRUCT

CONSTANT ALL LIVING THINGS CHANGE. THEREFORE EARTH AND ALL THE OTHER BODIES IN

DO MOVE IN A STRAIGHT LINE.

THAT A BALL ON A SLACK THREAD WILL ROLL IN STRAIGHT LINE WHEN IT IS PUSHED AND THAT ONE ATTACHED TO A CURVED LINE WHEN PUSHED.

THE POSITIONS AND THE POSITION OF BODIES IN SPACE ARE PREDICTABLE.

THE PATHS OF CELESTIAL BODIES ARE PREDICTABLE.

FROM THAT THE PULL OF GRAVITATION EXTENDED BEYOND THE EARTH TO THE MOON,

THE MOON IS IN AN ORBIT AROUND THE EARTH.

THE GRAVITATION BETWEEN EARTH AND MOON SHAPES THE MOON'S ORBIT AROUND THE EARTH,

ABOUT 28 DAYS TO MAKE ONE COMPLETE ORBIT AROUND THE EARTH.

THE MOTION OF THE MOON IS DUE TO ITS MOTION AROUND THE EARTH.

IT SEEMS TO CHANGE BY HOLDING A BALL AND TURNING IT SLOWLY WHILE FLASHLIGHT SHINES ON IT TO CHANGE SHAPE.

TO DESCRIBE THAT SHAPE OF THE LIGHTED PART OF BALL APPEARS TO CHANGE TO OBSERVER WHOM IT DOES NOT APPEAR TO CHANGE TO ANY OTHER OBSERVER.

THE CHANGES IN THE MOON OVER A PERIOD OF 14 OR 28 NIGHTS RELATING THE CHANGES TO THE SHAPE OF THE MOON.

- 0204630016 SHOW UNDERSTANDING OF THESE WORDS IN A MATCHING TEST
ELLIPSE.
- 0204630017 KNOW THAT THE HEAD OF A COMET IS A MIXTURE OF ICE AND
- 0204630018 KNOW THAT A COMET, LIKE THE MOON, MAY TRAVEL IN A
- 0204630019 KNOW THAT THE GRAVITATIONAL PULL OF JUPITER MAY AFFECT
- 0204630020 KNOW THAT THE ORBIT OF HALLEY'S COMET IS AN ELLIPSE.
- HISTORY REASONING FOR SUCH PREDICTION.
- 0204630022 KNOW WHY SOME COMETS DO NOT RETURN.
- 0204630023 CONSTRUCT MODEL OF ORBIT OF COMET BY DRAWING ON FLOOR
CHALK TO TRACE ORBIT LIKE THAT OF COMET.
- 0204630024 KNOW THAT METEORS MAY BE FRAGMENTS OF DISINTEGRATED
- 0204630025 KNOW THAT FRICTION OF A METEOR AGAINST THE ATMOSPHERE
- 0204630026 KNOW WHY METEORS DO NOT APPEAR AT REGULAR TIMES.
- 0204630027 IDENTIFY METEORS BY OBSERVING THE NIGHT SKY DURING
- 0204630028 DESCRIBE METEORS BY RECORDING THEIR CHARACTERISTICS AS

WORDS IN A MATCHING TEST FULL MOON, HALF MOON, METEOR, METEORITE, COMET, AND
 ET IS A MIXTURE OF ICE AND ROCK.
 MOON, MAY TRAVEL IN A PREDICTABLE ORBIT.
 PULL OF JUPITER MAY AFFECT HALLEY'S COMET.
 EY'S COMET IS AN ELLIPSE.
 PREDICTION.
 RETURN.
 COMET BY DRAWING ON FLOOR SCALE MODEL OF PART OF SOLAR SYSTEM USING STRING AND
 HAT OF COMET.
 AGMENTS OF DISINTEGRATED COMETS.
 TEOR AGAINST THE ATMOSPHERE RESULTS IN HEAT AND LIGHT.
 PEAR AT REGULAR TIMES.
 ING THE NIGHT SKY DURING TIMES OF METEOR SHOWERS.
 ING THEIR CHARACTERISTICS AS BRIGHTNESS, COLOR, DIRECTION PATHS, AND LASTING TIME.

0205630	SOLAR SYSTEM	
0205630001	CONSTRUCT MODEL OF SUN-EARTH-MOON SYSTEM.	
0205630002	GIVEN THE PROPERTIES OF THE PLANETS OF OUR SOLAR SYSTEM, ORDER OR NUMBER OF MOONS.	
0205630003	GIVEN THE PROPERTIES OF THE PLANETS, COMPARE THE KNOWN PHYSIC	
0205630004	CONSTRUCT DIAGRAM OF ELLIPTICAL SHAPE OF EARTH'S ORBIT. USE PA	
	ACCORDING TO ARRANGEMENT IN TEXT.	
0205630005	DEMONSTRATE MOVING THUMB TACKS FARTHER APART CAUSES MORE ELONGA	
	CIRCLE.	
0205630006	CONSTRUCT HYPOTHESIS OF WHAT ELLIPSE WILL LOOK LIKE IF THUMB	
0205630007	DESCRIBE THAT TIME IS LEAST FOR EARTH TO ROTATE, MORE FOR MO	
	REVOLVE AROUND SUN.	
0205630008	KNOW THAT BODIES IN SPACE, AS WELL AS THEIR MATTER AND ENERGY	
0205630009	KNOW THAT THE EARTH IS IN CONSTANT MOTION.	
0205630010	KNOW THAT BODIES IN SPACE, AS WELL AS THEIR MATTER AND ENERGY	
0205630011	KNOW THAT TO ALTER THE PATH OF A BODY IN SPACE, ENERGY MUST B	
	GRAVITATIONAL PULL AND INERTIAL MOTION.	
0205630012	KNOW THAT INERTIA AND GRAVITATION AFFECT THE PATH OF BODIES	
0205630013	KNOW THAT THE MASSES OF THE SUN AND THE PLANETS DIFFER HENCE,	
0205630014	INFER THE NEWTON'S LAWS OF GRAVITATION AND MOTION HELP EXPLAIN	

ON SYSTEM.

PLANETS OF OUR SOLAR SYSTEM, ORDER AT LEAST THREE PLANETS ACCORDING TO COLOR, SIZE,

PLANETS, COMPARE THE KNOWN PHYSICAL FEATURES OF TWO PLANETS.

SHAPE OF EARTH'S ORBIT. USE PAPER, PENCIL, RULER, 2 THUMB TACKS, STRING

MOVE THEM FARTHER APART CAUSES MORE ELONGATED ELLIPSE MOVE TOGETHER MAKES ORBIT MORE LIKE

CIRCLE. ELLIPSE WILL LOOK LIKE IF THUMB TACKS ARE MOVED CLOSER OR FARTHER.

PERIOD OF EARTH TO ROTATE, MORE FOR MOON TO REVOLVE AROUND EARTH, GREATER FOR EARTH TO

REvolve AS THEIR MATTER AND ENERGY, ARE IN CONSTANT CHANGE.

PERIOD OF MOTION.

PERIOD AS THEIR MATTER AND ENERGY, ARE IN CONSTANT CHANGE.

PERIOD OF A BODY IN SPACE, ENERGY MUST BE APPLIED TO AFFECT THE RELATIONSHIP BETWEEN

PERIOD OF MOTION. CAN AFFECT THE PATH OF BODIES TRAVELING IN SPACE.

PERIOD OF AND THE PLANETS DIFFER HENCE, THEIR GRAVITATIONAL PULLS DIFFER.

PERIOD OF TATION AND MOTION HELP EXPLAIN THE ORIGIN OF THE SOLAR SYSTEM.

0205630015 SENSE HOW SCIENTISTS AND ENGINEERS CAN PREDICT ORBITS.

0205630016 KNOW THAT THE POSITION AND MOTION OF THE MOON ARE AF

0205630017 KNOW THAT EXPLORATION OF THE MOON DEPENDS UPON UN
SPACE ARE AFFECTED BY GRAVITATION AND INFRTIAL MOTION.

0205630018 KNOW THAT ROTATION AND REVOLUTION DIFFER FOR DIFFERENT BO

0205630019 SENSE SOME RELATIONSHIPS BETWEEN DISTANCES AND TIME IN SF

0205630020 DISCOVER THAT ENORMOUS DISTANCES IN SPACE REQUIRE A NEW UN

0205630021 REASON OUT A METHOD FOR MEASURING THE DISTANCE TO DE

0205630022 RELATE THEIR KNOWLEDGE OF THE LAWS OF MOTION TO A MOON LA

0205630023 KNOW THAT THE FLIGHT OF A SPACECRAFT TO THE MOON IS AF

0205630024 FIGURE HIS WEIGHT IF ONE COULD GET COMPLFTELY AWAY FROM GR

0205630025 GIVE CORRECT ANSWERS ABOUT ONE'S MASS ON THE MOON.

0205630026 GIVE AN EXAMPLE OF HOW ONE WOULD FIGURE ONE'S WEIGHT ON TH

ENGINEERS CAN PREDICT ORBITS.

AND MOTION OF THE MOON ARE AFFECTED BY GRAVITATION AND INERTIAL MOTION.

THE MOON DEPENDS UPON UNDERSTANDING HOW THE POSITION AND MOTION OF BODIES IN
GRAVITATION AND INERTIAL MOTION.

REVOLUTION DIFFER FOR DIFFERENT BODIES IN SPACE.

S BETWEEN DISTANCES AND TIME IN SPACE TRAVEL.

DISTANCES IN SPACE REQUIRE A NEW UNIT OF MEASUREMENT.

MEASURING THE DISTANCE TO OBJECTS IN SPACE.

OF THE LAWS OF MOTION TO A MOON LAUNCH AND LANDING.

A SPACECRAFT TO THE MOON IS AFFECTED BY GRAVITATION.

E COULD GET COMPLETELY AWAY FROM GRAVITATION.

OUT ONE'S MASS ON THE MOON.

ONE WOULD FIGURE ONE'S WEIGHT ON THE MOON.

0205635 SOLAR SYSTEM (STARS) .

0205635001 BECOME AWARE OF THE ENORMOUS TEMPERATURES OF STARS.

0205635002 KNOW THAT THE STARS ARE CONTINUALLY CHANGING.

0205635003 EXPLAIN WHAT A SPECTROSCOPE TELLS US ABOUT THE

0205635004 DEMONSTRATE OR TELL HOW WE KNOW THAT THE STARS MOVE.

0205635005 DEMONSTRATE THAT A TELESCOPE MUST MOVE TO STAY POINTED AT NORTH STAR WITH SHUTTER OPEN THREE HOURS CAUSING

0206635 SOLAR SYSTEM (STARS)

0206635001 KNOW THAT NUCLEAR REACTIONS PRODUCE THE RADIANT ENERGY

0206635002 KNOW THAT NUCLEAR REACTIONS ARE THE SOURCE OF THE SUN'S

0206635003 KNOW THAT ANALYSIS OF LIGHT FROM A STAR HELPS US THROUGH THE DOPPLER EFFECT FOR LIGHT.

0206635004 KNOW THAT THE HEAT ENERGY OF A STAR IS A CLUE TO ITS

0206635005 KNOW THAT THE HEAT, TEMPERATURE, AND SIZE OF A STAR CAN

0206635006 KNOW THAT THE TOTAL HEAT AND LIGHT ENERGY OF A STAR IS A

0206635007 KNOW THAT THE MILKY WAY GALAXY IS VAST IN THE NUMBER OF

0206635008 KNOW THAT THE NUMBER OF STARS IS ESTIMATED BY SAMPLING

OUS TEMPERATURES OF STARS,

ONTINUALLY CHANGING.

PE TELLS US ABOUT THE

TEMPERATURE AND SUBSTANCES IN A STAR.

E KNOW THAT THE STARS MOVE.

PE MUST MOVE TO STAY POINTED
R OPEN THREE HOURS CAUSING

AT THE SAME STAR BY USING CAMERA REMAINING MOTIONLESS
CURVED TRACKS OF LIGHT ON FILM.

NS PRODUCE THE RADIANT ENERGY

OF STARS, AND CONSEQUENT CHANGE.

NS ARE THE SOURCE OF THE SUN'S

ENERGY.

HT FROM A STAR HELPS US
T FOR LIGHT.

DETERMINE ITS DIRECTION TOWARD OR AWAY FROM THE EARTH

OF A STAR IS A CLUE TO ITS

SIZE.

RATURE, AND SIZE OF A STAR CAN

BE DETERMINED BY ANALYSIS OF ITS LIGHT.

AND LIGHT ENERGY OF A STAR IS A FURTHER CLUE TO ITS SIZE.

GALAXY IS VAST IN THE NUMBER OF

ITS STARS AND THE DISTANCES BETWEEN THEM.

STARS IS ESTIMATED BY SAMPLING

REGIONS OF A GALAXY.

0206635009 KNOW THAT IN ORDER TO ESTIMATE THE TOTAL NUMBER OF STARS IN
DIMENSIONS. THE LIGHT-YEAR UNIT OF DISTANCE IS CON

0206635010 KNOW THAT WE SEE THE SOLAR SYSTEM AND OUR GALAXY AS IT WAS

0206635011 KNOW THAT STARS ARE CONTINUALLY CHANGING.

0206635012 KNOW THAT MOST STARS UNDERGO GRADUAL CHANGE.

0206635013 KNOW THAT SYSTEMS OF STARS MAY HAVE FORMED FROM SUP

0206635014 KNOW THAT THE POSITION OF THE STARS CHANGES IN A PRE

0206635015 KNOW THAT THE CHANGING POSITIONS OF BODIES IN SPACE CAN BE

THE TOTAL NUMBER OF STARS IN THE MILKY WAY, WE MUST DETERMINE THE GALAXY'S
IT OF DISTANCE IS CONVENIENT.

STEM AND OUR GALAXY AS IT WAS IN THE PAST.

Y CHANGING.

GRADUAL CHANGE.

Y HAVE FORMED FROM SUPERNOVAS.

STARS CHANGES IN A PREDICTABLE AND ORDERLY WAY.

ONS OF BODIES IN SPACE CAN BE PLOTTED WITH ACCURACY.

0201640	SOUND	
0201640001	RECOGNIZE OBJECTS THAT MAKE SOUNDS THAT YOU CAN HEAR.	
0201640002	GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE	WHIC
0201640003	GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE	WHIC
0201640004	GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE	WHIC
0201640005	CLASSIFY OBJECTS BY THE SOUNDS THEY MAKE.	
0202640	SOUND	
0202640001	KNOW THAT SOUND IS A RESULT OF SOMETHING MOVING.	
0202640002	DEMONSTRATE THAT SOUND IS A RESULT OF SOMETHING MOVING, BY U	BY U
	BANDS.	
0202640003	KNOW THAT SOUND TRAVELS THROUGH VARIOUS SUBSTANCES, SUCH AS W	W
0202640004	DEMONSTRATE THAT SOUND TRAVELS THROUGH VARIOUS	SUBS
	SIMPLE SOUND MAKERS.	
0202640005	KNOW THAT SOME SOUNDS ARE HIGH AND SOME ARE LOW, BY	VARY
0202640006	DEMONSTRATE THAT SOME SOUNDS ARE HIGH AND SOME ARE LOW, BY V	BY V
	MAKERS, SUCH AS DIFFERENT SIZE RUBBERBANDS ON A SOUND	BOX.
0202640007	KNOW THAT THE PAPER HORN HELPS THE EAR COLLECT MORE	SOUN
0202640008	CONSTRUCT A PAPER HORN FOR LISTENING, USING CONSTRUCTION PAPER	

SOUNDS THAT YOU CAN HEAR.

ANOTHER SOUND, RECOGNIZE WHICH SOUND IS LOUDER.

ANOTHER SOUND, RECOGNIZE WHICH SOUND HAS HIGHER PITCH.

ANOTHER SOUND, RECOGNIZE WHICH SOUND IS MORE PLEASANT.

US THEY MAKE.

OF SOMETHING MOVING.

RESULT OF SOMETHING MOVING, BY USING SIMPLE MATERIALS SUCH AS SOUND BOXES AND RUBBER

UGH VARIOUS SUBSTANCES, SUCH AS WOOD, WATER, AND AIR.

ELS THROUGH VARIOUS SUBSTANCES, SUCH AS WOOD, WATER, AND AIR, BY USING

GH AND SOME ARE LOW, BY VARYING DIMENSIONS AND VIBRATING SPEED OF SOUND MAKERS.

S ARE HIGH AND SOME ARE LOW, BY VARYING DIMENSIONS AND VIBRATING SPEED OF SOUND
IZE RUBBERBANDS ON A SOUND BOX.

PS THE EAR COLLECT HERE SOUND.

ISTENING, USING CONSTRUCTION PAPER AND PAPER FASTENERS.

0202640009 DEMONSTRATE THAT THE PAPER HORN HELPS THE EAR COLLECT MO
LISTENS TO SOUNDS.

0203640 SOUND

0203640001 DEMONSTRATE HOW SOUNDS WILL BE DIFFERENT WHEN MADE BY DI

0204640 SOUND

0204640001 EXPLAIN HOW SOUND AS A VIBRATION CREATES A TO-AND-FRO MO

0204640002 KNOW THAT SOUND IS CAUSED BY A VIBRATING OBJECT.

0204640003 EXPLAIN THE STATEMENT - WHERE THERE IS SOUND THERE IS MO

0204640004 DESCRIBE THAT THE RUBBER BAND AND RULER MOVE AS SOUND IS PR

0204640005 DEMONSTRATE THAT VIBRATION CAUSES SOUND.

0204640006 DEMONSTRATE MAKING OF SOUND, BY PLUCKING A RUBBER BAND ST
ONE END IS HELD AGAINST A TABLE.

0204640007 KNOW THAT SOUND TRAVELS IN WAVES, BY MOLECULAR MOTION.

0204640008 DEMONSTRATE A WAVE BY FLIPPING A LOOP ALONG A ROPE THAT IS
LENGTH OF THE ROPE.

0204640009 KNOW THAT SOUND TRAVELS BY THE MOTION OF MOLECULES,

0204640010 DISCOVER BY INVESTIGATION THAT WAVES TRANSMIT ENERGY IN AL

HORN HELPS THE EAR COLLECT MORE SOUND, BY HOLDING THE HORN AGAINST HIS EAR WHILE HE

BE DIFFERENT WHEN MADE BY DIFFERENT OBJECTS.

ATION CREATES A TO-AND-FRO MOTION.

A VIBRATING OBJECT.

RE THERE IS SOUND THERE IS MOVEMENT.

ND AND RULER MOVE AS SOUND IS PRODUCED.

CAUSES SOUND.

BY PLUCKING A RUBBER BAND STRETCHED AROUND A PIE TIN AND BY PLUCKING A RULER WHILE

WAVES, BY MOLECULAR MOTION.

ING A LOOP ALONG A ROPE THAT IS TIED AT THE OTHER END, CAUSING THE LOOP TO TRAVEL THE

THE MOTION OF MOLECULES.

0204640011	CONSTRUCT A STRING TELEPHONE, USING TEN FEET OF STRING	AND TWO
0204640012	DESCRIBE THAT SOUNDS PASS BETTER THROUGH A SOLID THAN WITHOUT THE STRING TELEPHONE AND BY COMPARING SOUNDS	THROUGH TAPPED
0204640013	DEMONSTRATE THAT SOUND IN THE AIR PASSES THROUGH A	SOLID,
0204640014	KNOW THAT SOUND TRAVELS APPROXIMATELY 1,100 FEET PER	SECOND
0204640015	KNOW HOW SOUND CAN BE ABSORBED.	
0204640016	KNOW THAT WHEN SOUND HITS A WALL IT CAN BOUNCE BACK.	
0204640017	KNOW THAT AN ECHO IS CAUSED BY THE BOUNCE OF SOUND.	
0204640018	KNOW THAT THE MOLECULAR THEORY EXPLAINS WHY SOUND	TRAVELS
0204640019	KNOW THAT THE PITCH OF A SOUND DEPENDS ON THE RATE OF	THE VIB
0204640020	DISCOVER THAT THE RATE OF VIBRATION CAN BE CHANGED IN	DIFFERE
0204640021	STATE TWO WAYS TO CHANGE PITCH.	
0204640022	DEMONSTRATE TO PUPILS THAT CHANGING THE RATE OF	VIBRATI
0204640023	USE A RULER OR RUBBER BANDS TO DEMONSTRATE THE CHANGES	IN PITC
0204640024	DEMONSTRATE HIGH AND LOW PITCH SOUNDS BY PULLING A PIECE OF STIF	DIFFERENT SPEEDS.

USING TEN FEET OF STRING AND TWO PAPER CUPS.

ETER THROUGH A SOLID THAN THROUGH AIR, BY COMPARING WHISPERS HEARD WITH AND
AND BY COMPARING SOUNDS TAPPED ON WALL WITH AND WITHOUT EAR ON WALL.

E AIR PASSES THROUGH A SOLID, BY USING THE STRING TELEPHONE.

OXIMATELY 1,100 FEET PER SECOND IN THE AIR.

ED.

WALL IT CAN BOUNCE BACK.

RY THE BOUNCE OF SOUND.

RY EXPLAINS WHY SOUND TRAVELS BETTER IN A SOLID THAN IN A GAS.

ND DEPENDS ON THE RATE OF THE VIBRATION.

BRATION CAN BE CHANGED IN DIFFERENT WAYS.

CH.

HANGING THE RATE OF VIBRATION CHANGES THE PITCH.

TO DEMONSTRATE THE CHANGES IN PITCH.

CH SOUNDS BY PULLING A PIECE OF STIFF CARDBOARD ACROSS THE TEETH OF A COMB, AT

0204640025	IDENTIFY HIGH PITCH WITH FAST VIBRATIONS OF THE	CARD
0204640026	IN A MATCHING TEST SHOW KNOWLEDGE OF HOW SOUND TRAVELS,	THE
0206640	SOUND	
0206640001	KNOW THAT SOUND IS THE VIBRATION OF MOLECULES IN A	WAVE
0206640002	USE MOLECULAR THEORY AND THE WAVE THEORY TO EXPLAIN HOW	SOUND
	PERSON WHO HEARS IT.	
0206640003	TELL WHAT CONDITIONS ARE NEEDED FOR MAKING AND HEARING	SOUND
0206640004	GIVEN EXPERIMENT WHICH PRODUCES DIFFERENT NUMBERS OF	WAVE
	PER SECOND (FREQUENCY) IS RELATED TO AMOUNT OF FORCE	REQU
0206640005	GIVEN EXPERIMENT AND DIAGRAM SHOWING RESULTS OF	EXPE
	(HEIGHT OR DEPTH) OF THE WAVES AND THE FORCE IT TOOK TO	MAKE
0206640006	DETERMINE THE DISTANCE TRAVELED BY A SOUND THROUGH THE	AIR
	FROM ITS SOURCE TO THE HEARER.	
0206640007	GIVEN LIST OF MATERIALS OR SUBSTANCES THAT TRANSMIT	SOUND
	THOSE WHICH ARE POOR CONDUCTORS.	
0206640008	GIVEN DESCRIPTION OF THE SURFACE OF A MATERIAL, TELL	WHET
	ECHO (REFLECT) IT.	
0206640009	DESIGN EXPERIMENT WHICH DEMONSTRATES RELATIONSHIP	BETW
	AMOUNT OF ENERGY TO VARY THE VOLUME OF SOUND PRODUCED).	
0206640010	RECOGNIZE RELATIVE VOLUME OF A SERIES OF SOUNDS (LOUDEST OR S	
	OR WHEN GIVEN DATA ABOUT THE AMPLITUDE OF VOLUME.	
0206640011	TELL HOW THE PITCH (FREQUENCY) OF A SOUND CAN BE RAISED OR L	
	VIBRATING OBJECT IS CHANGED.	

RATIONS OF THE CARDBOARD AND COMB, AND LOW PITCH WITH SLOW VIBRATIONS.
OF HOW SOUND TRAVELS, THE CAUSE OF ECHO, AND THE SPEED OF THE TRAVEL OF SOUND.

OF MOLECULES IN A WAVELIKE PATTERN.

THEORY TO EXPLAIN HOW SOUND TRAVELS FROM ITS SOURCE (OR BEGINNING) TO THE
OR MAKING AND HEARING SOUNDS.

DIFFERENT NUMBERS OF WAVES, DRAW DIAGRAM TO DEMONSTRATE THAT NUMBER OF WAVES
TO AMOUNT OF FORCE REQUIRED TO MAKE THEM.

ING RESULTS OF EXPERIMENT, RECOGNIZE RELATIONSHIP BETWEEN AMPLITUDE
D THE FORCE IT TOOK TO MAKE THOSE WAVES.

Y A SOUND THROUGH THE AIR GIVEN THE NUMBER OF SECONDS SOUND TAKES TO TRAVEL

NCES THAT TRANSMIT SOUND, IDENTIFY THOSE WHICH CARRY SOUND WAVES WELL AND

OF A MATERIAL, TELL WHETHER THE SURFACE WILL TAKE IN SOUND (ABSORB IT), OR

ATES RELATIONSHIP BETWEEN EXPENDED ENERGY AND VOLUME OF SOUND. (CHANGE
ME OF SOUND PRODUCED).

RIES OF SOUNDS (LOUDEST OR SOFTEST) WHEN SHOWN GRAPHS PICTURING THEIR AMPLITUDE,
ITUDE OF VOLUME.

ND CAN BE RAISED OR LOWERED WHEN THE LENGTH, THICKNESS, OR TENSION OF THE

0202645 SYSTEMS (INTERACTIONS)

0202645001 FIND INFORMATION ABOUT HOW LIVING THINGS INTERACT WITH THEIR

0202645002 - EXPLAIN WHAT FACTORS WILL INFLUENCE THE GROWTH OF AN ORGAN

0202645003 DESCRIBE HOW THINGS IN AN AQUARIUM INTERACT TO KEEP IT BALANC

0202645004 TELL WHAT SHOULD BE ADDED TO THE CLASS AQUARIUM TO KEEP THE AC

0202645005 PRESENT ORALLY TO A GROUP FINDINGS ABOUT HOW ORGANISMS INTERA
EXAMPLES.

0202645006 DEMONSTRATE THROUGH DRAWING, WRITING, OR SEQUENCING PICTUR
ON THE SUN).

0202645007 CLASSIFY SYSTEMS OF OBJECTS ACCORDING TO WHETHER THEY SHOW B

0202645008 FIND EVIDENCE OF INTERACTION BY COMPARING SIMILAR EXPERI

0202645009 IDENTIFY INTERACTING OBJECTS IN DEMONSTRATIONS OR PICTUR

0202645010 RECOGNIZE EVIDENCE OF INTERACTION IN DEMONSTRATIONS OR PICTUR

0202645011 RECOGNIZE CONSERVATION WITHIN A SYSTEM IN WHICH OBJECTS CHANG

0202645012 USING VARIOUS SENSES, FIND EVIDENCE OF INTERACTION.

0202645013 IDENTIFY THE SENSE OR SENSES USED TO OBSERVE INTERACTION AT A D

ING THINGS INTERACT WITH THEIR ENVIRONMENT. WRITE DOWN WHAT YOU FIND.

ENCE THE GROWTH OF AN ORGANISM.

RIUM INTERACT TO KEEP IT BALANCED.

HE CLASS AQUARIUM TO KEEP THE AQUARIUM BALANCED.

INGS ABOUT HOW ORGANISMS INTERACT IN THEIR ENVIRONMENT USING PICTURES OR REAL

ITING, OR SEQUENCING PICTURES THE MEANING OF FOOD CHAIN, (INCLUDE DEPENDENCE

ORDING TO WHETHER THEY SHOW EVIDENCE OF INTERACTION AT A DISTANCE.

Y COMPARING SIMILAR EXPERIMENTS.

IN DEMONSTRATIONS OR PICTURES.

ION IN DEMONSTRATIONS OR PICTURES.

A SYSTEM IN WHICH OBJECTS CHANGE IN APPEARANCE.

DENCE OF INTERACTION.

ED TO OBSERVE INTERACTION AT A DISTANCE. (MAGNETISM)

0201650 SYSTEMS AND SUBSYSTEMS

0201650001 KEEP AN ACCURATE RECORD OF OBJECTS BELONGING TO A

0201650002 CLASSIFY OBJECTS AND MATERIALS INTO SYSTEMS AND

0202650 SYSTEMS AND SUBSYSTEMS

0202650001 RECOGNIZE SYSTEMS OF INTERACTING OBJECTS.

0202650002 IDENTIFY SYSTEMS OF OBJECTS THAT INTERACT AT A DISTANCE.

0202650003 USE THE WORD SYSTEM CORRECTLY BY RECOGNIZING COMMON
SYSTEM.

0202650004 USE THE WORD SYSTEM TO REFER TO A GROUP OF RELATED
WHICH MAKE THEM PART OF THE SAME SYSTEM.

0203650 SYSTEMS AND SUBSYSTEMS

0203650001 IDENTIFY DEFINITIONS AND EXAMPLES OF SYSTEMS.

0203650002 NAME THE PARTS OF A SOLUTION THAT ARE SUBSYSTEMS OF THAT SOL

0203650003 NAME THE PARTS OF A FILTERING SYSTEM AND TELL WHAT THEY DO.

S BELONGING TO A SYSTEM.

TO SYSTEMS AND SUBSYSTEMS.

OBJECTS.

INTERACT AT A DISTANCE.

RECOGNIZING COMMON ELEMENTS OF OBJECTS WHICH MAKE THEM PART OF THE SAME

GROUP OF RELATED OBJECTS AND RECOGNIZE THE COMMON ELEMENTS OF OBJECTS
SYSTEM.

OF SYSTEMS.

ARE SUBSYSTEMS OF THAT SOLUTION.

TEM AND TELL WHAT THEY DO.

0205655 UNIVERSE

0205655001 KNOW THAT THE UNIVERSE IS IN CONSTANT CHANGE.

0205655002 KNOW THAT COMPONENT BODIES OF THE UNIVERSE ARE IN CONS

0205655003 GIVEN APPROPRIATE REFERENCE MATERIALS, MAKE AN OUTLINE OF T

0205655004 REPORT IN ORAL OR WRITTEN FORM ON THIS TOPIC, 'A RULER FOR
DEMONSTRATIONS OR DRAWINGS.,

CONSTANT CHANGE.

THE UNIVERSE ARE IN CONSTANT MOTION.

ERIALS, MAKE AN OUTLINE OF THE MANY COMPONENT PARTS OF THE UNIVERSE.

ON THIS TOPIC, 'A RULER FOR THE UNIVERSE,' AND SUPPORT THE REPORT WITH

0204660	WATER
0204660001	KNOW THAT THE WATER SUPPLY IS THE RESULT OF THE CYCLE OF
0204660002	DRAW AND EXPLAIN A DIAGRAM SHOWING THE WATER CYCLE.
0204660003	EXPLAIN THE WORK OF THE SUN IN THE WATER CYCLE.
0204660004	KNOW THAT WATER IS A COMPONENT OF ALL ORGANISMS.
0204660005	STATE THAT WATER IS A PART OF ALL LIVING THINGS.
0204660006	EXPLAIN HOW SAND CAN BE USED TO FILTER SOME MATERIALS
0204660007	CONSTRUCT A MODEL OF A WATER PURIFYING SYSTEM, BY OVER THE COTTON, SO THAT POURED LIQUIDS WILL PASS
0204660008	DEMONSTRATE THE USE OF THE MODEL WATER-PURIFIER BY FILTERING OUT SOIL PARTICLES, AND ALLOWING MUCH CLEARER
0204660009	DEMONSTRATE THAT SETTLING IS ONE WAY OF CLEANING WATER, STAND FOR A WHILE, CAUSING PARTICLES TO SETTLE TO THE
0204660010	KNOW THAT WATER CONTAINING DISSOLVED SUBSTANCES IS
0204660011	KNOW THAT THE WATER TABLE MARKS THE WATER LEVEL IN SOIL
0204660012	DEMONSTRATE THERE IS A QUANTITY OF WATER IN AN APPLE BY INTO SMALL PIECES ALLOWING THEM TO DRY FOR FEW DAYS AND
0204660013	DESCRIBE THE WEIGHT OF THE APPLE BEFORE AND AFTER OF THE WATER LOST FROM THE APPLE.

THE RESULT OF THE CYCLE OF EVAPORATION AND CONDENSATION.

THE WATER CYCLE.

THE WATER CYCLE.

OF ALL ORGANISMS.

ALL LIVING THINGS. (DEMONSTRATING THAT THERE IS WATER IN FOOD).

FILTER SOME MATERIALS OUT OF WATER.

PURIFYING SYSTEM, BY PLACING COTTON IN A FUNNEL AND ADDING A LAYER OF SAND
LIQUIDS WILL PASS THROUGH THE FILTER INTO A JAR.

WATER-PURIFIER BY POURING WATER FROM THE SETTLING JAR INTO THE FUNNEL
AND ALLOWING MUCH CLEARER WATER TO PASS THROUGH.

WAY OF CLEANING WATER, BY MIXING WATER AND SOIL, THEN ALLOWING THE MIXTURE TO
SETTLE TO THE BOTTOM.

DISSOLVED SUBSTANCES IS HEAVIER THAN PURE WATER.

THE WATER LEVEL IN SOIL.

OF WATER IN AN APPLE BY WEIGHING APPLE WITH SPRING SCALE. THEN CUTTING APPLE
TO DRY FOR FEW DAYS AND WEIGHING PIECES AGAIN.

BEFORE AND AFTER DRYING, THE WEIGHT LOST FROM THE APPLE, AND THE WEIGHT

0205665

WEATHER

0205665001

WHEN PRESENTED WITH A LIST OF TERMS CONCERNING WEATHER, CO
TERMS RELATING TO WEATHER AND WEATHER CONDITIONS.

0206665

WEATHER

0206665001

TELL THE DIFFERENCE BETWEEN WEATHER AND CLIMATE. TELL WHA

PAGE 208

TERMS CONCERNING WEATHER, CORRECTLY DEFINE IN WRITING TEN OUT OF FIFTEEN OF THESE WEATHER CONDITIONS.

ATHER AND CLIMATE. TELL WHAT ATMOSPHERIC CONDITIONS ARE CHARACTERISTIC OF EACH.

0204670

WEATHER (CLOUDS)

0204670001

KNOW AS RISING AIR COOLS, WATER VAPOR CONDENSES TO FORM

0206670

WEATHER (CLOUDS)

0206670001

IDENTIFY BASIC CLOUD TYPES (CUMULUS, CIRRUS, AND
CLOUD FORMATIONS.

ER VAPOR CONDENSES TO FORM A CLOUD.

UMULUS, CIRRUS, AND STRATUS) WHEN GIVEN A DRAWING OR DESCRIPTION OF THESE

0206675

WEATHER (FRONTS)

0206675001

RECOGNIZE THE FOUR KINDS OF WEATHER FRONTS (WARM, COLD, STA
EXAMPLE OF EACH.

PAGE 210

HER FRONTS (WARM, COLD, STATIONARY, AND OCCLUDED) WHEN GIVEN A DESCRIPTION OR

0204680 WEATHER (PRECIPITATION)

0204680001 KNOW THAT RAIN FORMS AS CLOUD DROPLETS COME TOGETHER INTO

0204680002 UNDERSTAND THAT CLOUD DROPLETS ARE FORMED BY THE COOLING OF

0204680003 KNOW THAT CLOUD DROPLETS COLLIDE TO MAKE RAINDROPS.

0204680004 UNDERSTAND HOW ICE SPECKS MELT TO MAKE RAINDROPS.

0206680 WEATHER (PRECIPITATION)

0206680001 MATCH DIFFERENT FORMS OF PRECIPITATION (RAIN, SLEET, HAIL)

CLOUD DROPLETS COME TOGETHER INTO LARGER DROPS OF WATER.

DROPLETS ARE FORMED BY THE COOLING OF WATER VAPOR.

DROPLETS COLLIDE TO MAKE RAINDROPS.

ICE CRYSTALS MELT TO MAKE RAINDROPS.

PRECIPITATION (RAIN, SLEET, HAIL, SNOW) WITH DESCRIPTION OF HOW EACH IS FORMED.

0205685	WEATHER (PREDICTION)	
0205685001	CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM	AN A
	WIND AT A GIVEN TIME.	
0205685002	CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM A TIDE	
	GIVEN TIME.	
0205685003	CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM	AN. AN
0205685004	FROM OBSERVATIONS AND WEATHER KNOWLEDGE, INTERPRET	INFOR
0206685	WEATHER (PREDICTION)	
0206685001	GIVEN INFORMATION ABOUT FACTORS WHICH CAUSE MOVEMENT OF	AIR M
	TEMPERATURES AND OTHER FACTORS WHICH CAUSE UNEQUAL	HEATI
0206685002	PREDICT CHANGES IN THE WEATHER WHEN GIVEN READINGS FROM	RECOR
	HYGROMETER).	
0206685003	WHEN GIVEN DATA ON A WEATHER MAP, PREDICT THE PARTICULAR TYPES	
0206685004	MATCH THE TOOLS USED BY METEOROLOGISTS (ELECTRONIC	COMPU
	SATELLITES) WITH THEIR FUNCTIONS IN PREDICTING WEATHER.	

ON THE DATA TAKEN FROM AN AEROVANE TO SHOW THE VELOCITY AND DIRECTIONS OF THE
 ON THE DATA TAKEN FROM A TIDE GAUGE TO SHOW THE RISE AND FALL OF THE TIDES AT A
 ON THE DATA TAKEN FROM AN ANEMOMETER.
 KNOWLEDGE, INTERPRET INFORMATION SHOWN IN A TABLE OR A GRAPH.

WHICH CAUSE MOVEMENT OF AIR MASSES (ANGLE OF SUN'S RAYS, NIGHT AND DAY
 WHICH CAUSE UNEQUAL HEATING), PREDICT PROBABLE DIRECTION OF AIR MOVEMENT.

WHEN GIVEN READINGS FROM RECORDING INSTRUMENTS (THERMOMETER, BAROMETER, AND

AP, PREDICT THE PARTICULAR TYPES OF WEATHER CONDITIONS IN THAT AREA.

OLOGISTS (ELECTRONIC COMPUTERS, RADAR, RADIOSONDE, WEATHER BALLOONS AND
 NS IN PREDICTING WEATHER.

0204690 WEATHER (RECORDING)

0204690001 KEEP DAILY RECORD OF YOUR OBSERVATIONS OF ELEMENTS OF WEAT
FOR RECORDING ANY INFORMATION YOU CANNOT OBSERVE YOUR

0204690002 USING A RAIN-GAUGE, ACQUIRE DATA EACH DAY TO MAKE A LONG

0204690003 USING A RAIN GAUGE, RECORD THE AMOUNT OF RAINFALL FOR A MONT

0204690004 USING THE THERMOMETER, ACQUIRE DATA EACH DAY TO MAKE A LONG

0204690005 USING A WIND VANE, ACQUIRE DATA EACH DAY TO MAKE A LONG

0204690006 USING WEATHER INSTRUMENTS, OBSERVATIONS AND WEATHER KNOW
TABLE OR GRAPH.

0204690007 CONSTRUCT A POINT GRAPH OR LINE GRAPH FROM A WEATHER MAP

0204690008 FROM OBSERVATIONS AND WEATHER KNOWLEDGE, INTERPRET INFO

0204690009 CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM AN A
WIND AT A GIVEN TIME.

0204690010 CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM AN A

0204690011 CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM A TIDE
GIVEN TIME.

0206690 WEATHER (RECORDING)

0206690001 GIVEN DESCRIPTION OF A WEATHER CONDITION, IDENTIFY THE APPR
THE SPECIFIED CONDITION.

0206690002 CONSTRUCT A POINT GRAPH OR LINE GRAPH FROM THE WEATHER FORE

OBSERVATIONS OF ELEMENTS OF WEATHER FOR TWO WEEKS. USE REPORTS FROM WEATHER BUREAU
 ON YOU CANNOT OBSERVE YOURSELF.

DATA EACH DAY TO MAKE A LONG-RANGE WEATHER CHART.

THE AMOUNT OF RAINFALL FOR A MONTH AND GRAPH THIS INFORMATION ON A LINE GRAPH.

IRE DATA EACH DAY TO MAKE A LONG-RANGE WEATHER CHART.

DATA EACH DAY TO MAKE A LONG-RANGE WEATHER CHART.

OBSERVATIONS AND WEATHER KNOWLEDGE, IDENTIFY AND NAME ALL INFORMATION SHOWN IN A

LINE GRAPH FROM A WEATHER MAP EACH DAY.

ER KNOWLEDGE, INTERPRET INFORMATION SHOWN IN A TABLE OR GRAPH.

ASED ON THE DATA TAKEN FROM AN AEROVANE TO SHOW THE VELOCITY AND DIRECTIONS OF THE

ASED ON THE DATA TAKEN FROM AN ANEMOMETER.

ASED ON THE DATA TAKEN FROM A TIDE GAUGE TO SHOW THE RISE AND FALL OF THE TIDES AT A

HER CONDITION, IDENTIFY THE APPROPRIATE RECORDING INSTRUMENT FOR THE MEASUREMENT OF

LINE GRAPH FROM THE WEATHER FORECAST EACH DAY.

0206695

WEATHER (STORMS)

0206695001

RECOGNIZE DEFINITIONS OF DESTRUCTIVE FORCES OF WEATHER (THUNDERSTORMS)
WHEN GIVEN A DESCRIPTION OR DIAGRAM OF EACH STORM.

PAGE 214

FORCES OF WEATHER (THUNDERSTORM, CYCLONE, TYPHOON, HURRICANE, AND TORNADO
OF EACH STORM.

0201700

WEATHER (TEMPERATURE)

0201700001

KNOW THAT CHANGES IN TEMPERATURE CAN BE DISTINGUISHED BY USI

0201700002

DISTINGUISH BETWEEN CHANGES IN TEMPERATURE, AS INDICATED ON
UPWARD IN A WARMER ENVIRONMENT AND DOWNWARD IN A COLDER ENV

0201700003

READ THERMOMETER CORRECTLY 10 OUT OF 12 TIMES.

RE CAN BE DISTINGUISHED BY USING A THERMOMETER.

TEMPERATURE, AS INDICATED ON A THERMOMETER, BY OBSERVING THERMOMETER COLUMN MOVE
AND DOWNWARD IN A COLDER ENVIRONMENT.

OUT OF 12 TIMES.